THE GEOPOLITICAL DESTINY OF EAST ASIA

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The art and science of geopolitics was developed to explain history and international relations by identifying and incorporating the role of geography and climate in the complex adaptive organic system that is human civilization. The application of the geopolitical framework of analysis in East Asian history confirmed the role of geography and climate in influencing human decisions in East Asian history. This study identified several broad geopolitical trends for the region of East Asia by studying the history of the region, incorporating the continuous effects of geography and climate. Focusing not at the national level but at the sub-regional level, the following trends are identified: East Asia is a collection of 17 distinct sub-regions, each with a distinct identity, language and tradition that are centrifugal in their total effect within the sub-region. The challenge for China is to keep its 13 sub-regions together as a single nation despite the increasing crisis of deepening disparity in wealth, chronic water, and energy shortages. The climate trends indicate a worsening of the water shortage problem for all of China, as well as Southeast Asia and South Asia, resulting in a sub-regional migration problem that will push all nations of Asia to their limit in the next 100 years. Global warming will bring East Siberia into the forefront of global competition, with the Arctic Ocean assuming the role of a new global stage of international competition. Facing a resurgent Russia and a reinvigorated North America, East Asia will enter a period of playing a peripheral role in international politics brought on by the systemic failures brought on by climate change and shaped by geography.

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ABSTRACT

THE GEOPOLITICAL DESTINY OF EAST ASIA, by MAJ David H. Park, 230 pages.

The art and science of geopolitics was developed to explain history and international relations by identifying and incorporating the role of geography and climate in the complex adaptive organic system that is human civilization. The application of the geopolitical framework of analysis in East Asian history confirmed the role of geography and climate in influencing human decisions in East Asian history. This study identified several broad geopolitical trends for the region of East Asia by studying the history of the region, incorporating the continuous effects of geography and climate. Focusing not at the national level but at the sub-regional level, the following trends are identified: East Asia is a collection of 17 distinct sub-regions, each with a distinct identity, language and tradition that are centrifugal in their total effect within the sub-region. The challenge for China is to keep its 13 sub-regions together as a single nation despite the increasing crisis of deepening disparity in wealth, chronic water, and energy shortages. The climate trends indicate a worsening of the water shortage problem for all of China, as well as Southeast Asia and South Asia, resulting in a sub-regional migration problem that will push all nations of Asia to their limit in the next 100 years. Global warming will bring East Siberia into the forefront of global competition, with the Arctic Ocean assuming the role of a new global stage of international competition. Facing a resurgent Russia and a reinvigorated North America, East Asia will enter a period of playing a peripheral role in international politics brought on by the systemic failures brought on by climate change and shaped by geography.

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ACRONYMS

AA	Avenues of Approach
GDP	Gross Domestic Product
GIS	Geographic Information System
GIUK	Greenland - Iceland – UK Gate
GPS	Global Positioning System
KMT	Kuomintang (Guomindang) The Chinese Nationalist Party
PCI	Per Capita Income
PRC	People's Republic of China
ROC	Republic of China
ROK	Republic of Korea
UK	United Kingdom
UN	United Nations
US	United States
USSR	Union of Soviet Socialists Republics
WW II	World War II

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CHAPTER 1

INTRODUCTION AND RESEARCH QUESTION

> 故曰：知彼知己，勝乃不殆；知天知地，勝乃可全.
> Therefore, know the enemy and yourself, and your victory will never be endangered; Know the weather and terrain; your victory will then be complete.
> — Sunzi, *The Art of War*

The importance of East Asia[1] in global affairs has been rising in the last few decades. Despite its remoteness from the continental United States (US), its economic and diplomatic importance to the US continues to grow. There have been many studies and much research on East Asia using various frameworks of analysis. The majority of studies have used the state level of analysis, treating the individual states of East Asia as discrete and rational actors. This research paper will use a geopolitical framework applied at the regional level, which is one level above that of national level to provide a fresh set of analyses on this increasingly important sub-region of the world. While identifying trends at the regional level, this study will also explore specific issues at the sub-regional level to confirm or deny specific sub-regional characteristics and their consequences.

The objective of this study is to identify trends and developments that have occurred in East Asia and what these trends and developments may indicate about the future by using a geopolitical framework. For some, the word “geopolitics” is a synonym for international relations, or the traditional balance of power politics. The origin of the

[1]For the purpose of this research, East Asia is defined as the nations of China, Japan, North and South Korea, and Mongolia. Taiwan is included in the definition. This is the UN definition to be covered in chapter 3.

term however, lies in a profound analysis of the relationship between human beings and the lands in which they live.

The following definitions of geopolitics show the original theoretical concept as well as how the term is commonly used today:

> *Geopolitik* is the theory of state as a geographic organism or a phenomenon in space, that is State as soil (country), territory, dominion, or more distinctly, as a reign. As a political science, it always keeps in mind the Unity of State and attempts to explain the nature of State. Meanwhile, Political Geography studies Earth as the habitat of human communities and their relations with other conditions of the earth.[2]

> *Geopolitik* is the doctrine of the earth relations (Erdgebundenheit) of political developments. It is based on the broad foundations of geography, particularly political geography, as the doctrine of political space organisms and their structure.
>
> The findings of geography as to the character of the earth's spaces furnish the frame for *Geopolitik*. Political developments must take place within this frame if they are to have permanent success. Those who shape political life will occasionally reach beyond this frame. But sooner or later the earth-bound character of political developments will always prevail.
>
> Thus, *Geopolitik* becomes the doctrine of an art. It is to guide practical politics to that point where it must take the step into the unknown. Only if inspired by geopolitical knowledge, can this step be successful.[3]

> For the purpose of this study, geopolitics will be understood to refer to the relation of international political power to the geographical setting.[4]

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[2]Agusto Pinochet Ugarte, *Introduction to Geopolitica* (Santiago de Chile: Editorial Andres Bello 1981), 41. This is the original definition used by Rudolf Kjellén of Sweden who coined the term "geopolitics. "

[3]Andreas Dorpalen, *The World of General Haushofer, Geopolitics in Action* (Port Washington, Kennikat Press, 1942), 23. Official Definition of *Geopolitik*, Karl Haushoffer, Erich Obst, Hermann and Lautensach, Otto Maull, *Zeitschrift für Geopolitik*, 1922.

[4]Colin S. Gray, *The Geopolitics of the Nuclear Era: Heartland, Rimlands, and the Technological Revolution* (New York: Crane, Russak and Company Inc., 1977), 5.

> By geopolitical I mean an approach that pays attention to the requirements of equilibrium.[5]
>
> In brief, for the United States, Eurasian geostrategy involves the purposeful management of geostrategically dynamic states and the careful handling of geopolitically catalytic states, in keeping with the twin interests of America in the short-term preservation of its unique global power, and the long-run transformation of it into increasingly institutionalized global cooperation.[6]
>
> A study of the influence of such factors as geography, economics, and demography on the politics and especially the foreign policy of a state; or a governmental policy guided by geopolitics.[7]

The art and science of geopolitics presents a deterministic model of human behavior, in that the physical geography and climate shape human beings, and canalize human behavior and policy. A student of geopolitics sees the entire earth as a interwoven complex adaptive system, each part having an effect on another. As such, geopolitics requires a thorough understanding of many interconnected disciplines such as: history, geography, geology, climatology, ecology, anthropology, culture, religion, strategy, economics, linguistics, and military science. Throughout the rest of the paper, these factors will be abbreviated as geopolitical factors, unless referring to a specific factor.

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[5]Henry Kissinger, *The White House Years,* in *Geopolitics: Geography and Strategy*, eds. Colin S. Gray and Geoffrey Sloan (London: Frank Cass Publishers, 1999), 914.

[6]Zbiniew Brzezinski, *The Grand Chessboard: American Primacy and its Geostrategic Imperatives* (New York: Basic Books, 1997), 40. Although Brzezinski does not use the term geopolitics in any of his works, preferring the term *geostrategy*, as the author of this thesis uses components of Brzezinski's theory, his definition is included here.

[7]Merriam-Webster, s.v. "Geopolitics," http://www.merriam-webster.com/dictionary/geopolitics (accessed 23 October 2011).

This thesis examines the geopolitics of East Asia to answer the primary research question: Can a geopolitical analysis of East Asia explain the history of the region and identify trends for the future of the region?

To answer this primary research question, the following secondary questions will be addressed:

1. What is geopolitics?

2. What is the geopolitical explanation for the current political, economic, and military situation in East Asia?

3. What are some of the major geopolitical trends at the regional level within East Asia?

As a regional analysis, this thesis will not deal with detailed microanalysis of current crises, such as the Taiwan issue, or Korean unification. It will study the broad brush strokes of geopolitical factors throughout East Asia to explain the history, current situation, and assert several broad trends for the future of the region.

This thesis will begin by explaining the origin and evolution of the art and science of geopolitics in the last two hundred years in chapter 2. Both the Anglo-American and German roots of geopolitics will be studied. Several post World War II scholars of geopolitics will be presented as well. Without this chapter, it will be difficult to establish the continuity of these geopolitical ideas and terms into the later chapters of this thesis.

Chapter 3 categorizes East Asia into 17 sub--regions and analyzes each of them to illustrate several important points, using the broad geopolitical concepts identified in chapter 2. It emphasizes the point that East Asia is not a monolithic entity, but a loose confederation of centrifugal sub-regions, many of whom are kept together precisely due

to the geography of the sub-region. Several of the sub-regions have developed serious climatological and ecological problems in the past decade. The examination of these problems in this chapter lays the foundation for the next chapter.

Chapter 4 addresses the regional impact of the global climate change that is transforming and apparently continue to transform the world as we know it. As it is a global phenomenon, and the entire world is a complex adaptive system, the research will inevitably address certain global issues outside the limit of East Asia. This will allow a proper analysis of the full impact of the global problem at the regional level.

Chapter 5 brings together the effects of geography and climate as discussed in chapters 3 and 4, to present an organized set of trends that can be further studied and, or leveraged for planning purposes at various levels. Many of these trends will have a large impact not only on East Asia, and its neighboring regions, but also on the United States.

Chapter 6 conclude the thesis by connecting the identified trends with the concepts of geopolitics explained in chapter 2, and by conclusively showing that a geopolitical analysis not only explains the current political, economic, and military situation in East Asia, but that it allows us to identify crucial trends for the region. As some of these trends are global in nature, and because the US continues to maintain an interest in East Asia, the findings of this study should prove insightful to American political, economic, and military leaders.

CHAPTER 2

GEOPOLITICS AS SETTING THE CONTEXT

> Who rules East Europe commands the Heartland;
> Who rules Heartland commands the World-Island;
> Who rules the World-Island commands the World.
> — Halford Mackinder, *Democratic Ideals and Reality*:
> *A Study in the Politics of Reconstruction*

This chapter presents the theorists of geopolitics from the beginning to today. Their theories have stood the tests of time. The Heartland thesis, for example, is still affecting us today. In our generation we may see the fulfillment of Mackinder or Spykman's predictions. As such, these theorist's analyses and findings are valuable to all leaders living in the 21st century.

The art and science of geopolitics was developed in Europe in the latter half of the 19th century. Normally credited to Friedrich Ratzel of Germany and his Swedish student Rudolf Kjellen, the science of *Geopolitik*, as it was known in Germany in the first decades of the 20th century was actually the culmination of the Enlightenment. With the advent of modern science, scholars began combining the various sciences of geography, natural studies, geology, history, and cultural studies. As such geopolitics is an interdisciplinary science that explains the most complex system of all, human beings in organized groups.

Nearly simultaneously to these German scholars, Alfred Thayer Mahan of America developed the thesis of Sea Power, while Sir Halford Mackinder of England developed the theory of the Geographical Pivot of History. All of these ideas were synthesized into a single discipline under Karl Haushofer of Germany starting in 1919,

through his *Zeitschrift für Geopolitik* [Institute for Geopolitics]. As there is much overlap among these scholars, this chapter will attempt to list them by chronological order as best as possible.

The German *Geopolitik* of Friedrich Ratzel, and Rudolf Kjellén

The late 19th century was a dynamic time of industrial, scientific, and academic progress in Europe. The number of industrial and scientific inventions were nearly matched by new scientific theories, both hard and soft. With the age of discovery coming to a close and the science of map making reaching its zenith, some geographers and historians began complementing their geography with various other academic disciplines.

Buoyed by a rising nationalism following its defeat of France in the Franco-Prussian War and German unification, many German scholars developed various ideas to bolster the new nation's strategic thoughts. *Ostforschung*, the study of the East, conducted in Prussia since the 1700s began to be systemized.[8] German immigration into Eastern Europe and Russia during the Middle Ages, was now officially called *Ostsiedlung*. German nationalists began crediting the O*stsiedlung* with having provided Eastern Europe and Russia with a core cadre of people from the advanced civilization of Germany. This idea grew into a call for *Drang nach Osten*, or Drive toward the East. Coined by a Polish journalist in a descriptive sense in 1849, it gained wide usage, not only in Germany, but throughout Eastern Europe by the 1890s. Some German nationalist

[8]Karin Friedrich, *The Other Prussia: Royal Prussia, Poland and Liberty, 1569-1772* (Cambridge: Cambridge University Press, 2000), 13.

groups began coopting the phrase and turned it from a descriptive phrase about *Ostsiedlung*, into a prescriptive phrase for German conquest of the East.[9]

Concurrent to the idea of *Drang nach Osten*, a parallel idea had developed in Germany. Karl Ritter, born in 1779, who was the first director of the Geography Department in the University of Berlin from 1825 until his death in 1859, had fused the new science of scientific biology with geography. He approached geography as physiology, treating topography as anatomy. His view was that as the physiology is the basis of man, the geography is the basis of a nation, shaping its history and destiny in an almost biological fashion.[10] One year before his death, in 1858, Charles Darwin published *The Origin of Species*, propagating the Theory of Evolution. The theory of evolution was now seen by many Germans to buttress the biological theory of nations as espoused by Carl Ritter.

Friedrich Ratzel (1844-1904), considered the true father of German *Geopolitik*, published his work, *Anthropogeographie* volume 1 in 1882 and volume 2 in 1891. As a zoologist turned geographer, Ratzel was uniquely qualified to combine biology and geography into *Geopolitik*. In 1897, he published his follow on work, *Politische Geographie*. In 1901, he published an essay, *Lebensraum*, which became not only the foundation document of German *Geopolitik*, but one of the foundational ideological basis

[9]Douglas Salvage, Review of Henry Cord Meyer, *Drang nach Osten: Fortunes of a Slogan-Concept in Germanic-Slavic Relations, 1849-1990* (Peter Lang AG, 1996), http://www.h-net.org/reviews/showrev.php?id=1248 (accessed 27 September, 2011).

[10]Encylopedia Britannica, s.v. "Carl Ritter," http://www.britannica.com/EBchecked/topic/504667/Carl-Ritter (accessed 20 October 2011).

for Nazism three decades later.[11] Ratzel expanded on Carl Ritter's biological theory of nations by postulating that nations were like organisms, with dynamic "borders" that expanded or contracted based on the health of the nation. The resources within the boundary of the nation sustained its people. The people were in a spiritual bond with the land and the resources of the land. Together, the nation would grow, or shrink.[12] He named this concept *Raum*, or *Lebensraum*, meaning space or living space that would expand or shrink corresponding to the health the nation as a whole.[13] In the Social Darwinist context popular at the time, this new theory represented the apex of social sciences.

Ratzel's protégé, Rudolf Kjellén (1864-1922) of Sweden, expanded upon the idea of Lebensraum. Kjellén coined the term *Geopolitik*, which was translated into English as geopolitics. His most important work, *Der Staat als Lebensform* [The state as a living form] considered one of the foundation works of *Geopolitik*, was published in 1917.[14] In the book, he lists the five pillars of German *Geopolitik.*

1. *Reich* [Empire]: National territory comprising *Lebensraum* [living space] plus strategic military shape
2. *Volk* [People]: The racial unity and strength of the nation

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[11]Pinochet, 54-55.

[12]Johannes Mattern, *Geopolitik: Doctrine of National Self-sufficiency and Empire* (Baltimore, MD: Johns Hopkins Press, 1942), 55.

[13]Gerard Chaliand and Jean-Pierre Rageau, *Strategic Atlas* (New York: Harper and Row Publishers, 1983), 20.

[14]Mattern, 53.

3. *Haushalt* [Household]: National economic self-sufficiency or autarky

4. *Gesellschaft* [Society]: The social aspect of the nation in relation to other nations in an anthropomorphic way

5. *Regierung* [Government]: Government and Army governing the people.[15]

Kjellén never acquired German citizenship, but he saw Sweden as a racial extension of Germany, and considered himself a German. He viewed economic autarky as the solution for problems of Germany arising from population pressure. Along with autarky, he espoused the expansion of Germany to gain *Lebensraum*. His ideas were coopted by German nationalists almost immediately.[16]

Alfred Thayer Mahan and Sea Power

Alfred Thayer Mahan (1840-1914) of America, set the first groundwork by linking the command of the oceans to national power in his seminal work, *The Influence of Sea Power upon History*, published in four volumes covering 1660 to 1812, in 1890 and 1892. This work codified what all modern nations had already learned and accepted as true, that sea power, or command of the sea was vital for imperial domination in the modern age.[17]

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[15]Mattern, 73-87.

[16]Pinochet, 56-57.

[17]Philip A. Crowl, "Alfred Thayer Mahan: The Naval Historian," in *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 463.

Mahan coined the term "sea power,"[18] and postulated six conditions that affect it:

1. Geographical position

2. Physical conformation

3. Extent of territory

4. Number of population

5. National character

6. Character and policy of governments.

A crucial contribution from Mahan was his identification of "naval chokepoints," with which he claimed that one could lock up entire continents. These chokepoints were narrow sea passages which could easily be blockaded by a sea power to prevent naval commerce, communications, or troop/fleet movements. This codification of a principle, that many strategists already knew, helped steer the naval strategies and national policies of many nations into the 20th century. Notably, the naval leadership of Japan adopted Mahan's sea power theory wholesale, building their new navy and formulating their national strategy mainly based on Mahan's theory of sea power. Encouraged by multiple admirals and naval ministers, many Japanese came to see in Mahan's work, not just a plan for America's expansion, but also timeless principles for becoming the naval power that they wanted Japan to be.[19]

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[18]Crowl, 451. According to Crowl, Mahan never clearly defines the term seapower, but alludes to the naval command of the sea that brings about wealth and power through commerce, overseas colonies and access to markets.

[19]Sadao Asada, *From Mahan to Pearl Harbor: The Imperial Japanese Army and the United States* (Annapolis, MD: Naval Institute Press, 2006), 26-44.

By 1900, every one of these naval chokepoints "red stars," shown in figure 1, in the entire world were controlled either directly by the United Kingdom (UK), or indirectly through its US or Japanese allies. The map dates from the 1980s, but the chokepoints remain the same. Although Mahan never used the word geopolitics, or attempts to explain "landpower" as opposed to sea power, conditions described above show a remarkable similarity to the German *Geopolitik* as developed in the decades to follow. Without a doubt, Mahan influenced his contemporaries in Europe and America and those that followed him.[20]

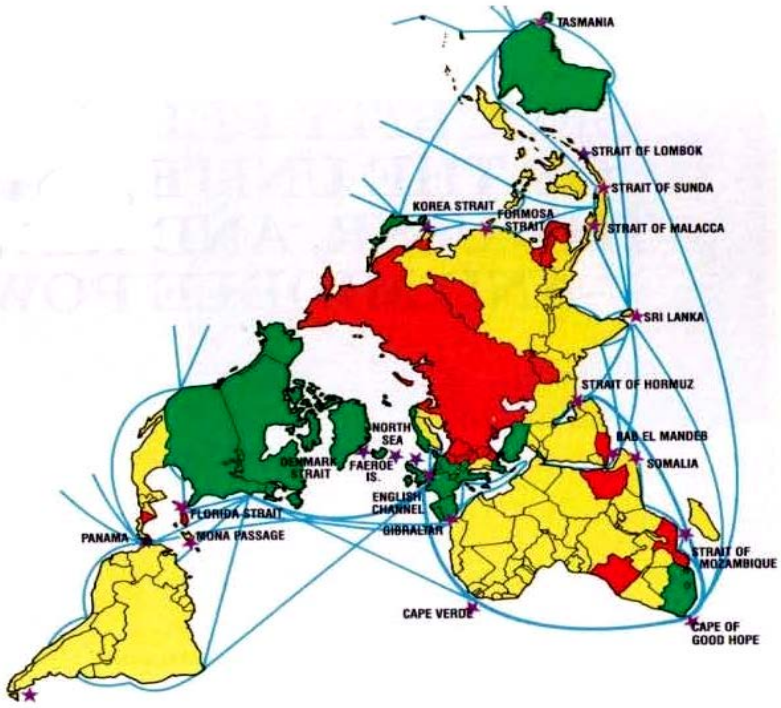

Figure 1. Global Sea lanes and Maritime Chokepoints
Source: Gerard Chaliand and Jean-Pierre Rageau, *Strategic Atlas* (New York: Harper and Row Publishers, 1983), 75.

[20]Chaliand and Rageau, 75.

Political Geography of Sir Halford Mackinder

Sir Halford Mackinder (1862-1947) used a method of combining history and geography to explain the world similar to what Mahan did. Unlike Mahan, Mackinder focused on the land as opposed to the sea. As a career geographer, and a founding member of both the Geographical Association and the London School of Economics, Mackinder arguably contributed more to modern geopolitical thought than anyone else. Looking at the world map, Mackinder was drawn to the Eurasian–African continental mass in figure 2, which he called the World-Island.

World-Island

Mackinder noticed that the preponderance of natural resources and land mass was located in what he referred to as the World-Island. This World-Island is the combined continents of Eurasia and Africa as seen in figure 2. Based on the relative size and the available resources, Mackinder postulated that the nation that dominated or controlled the entire World-Island would dominate the world.

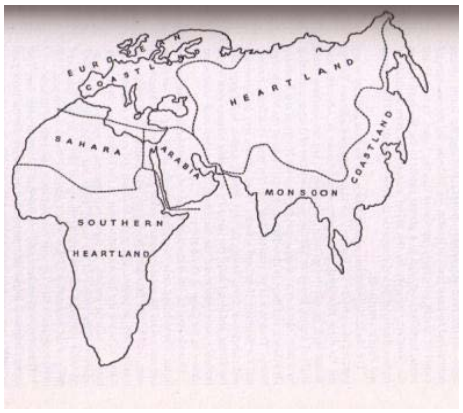

Figure 2. The World-Island Divided into Six Sub-regions
Source: Halford Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 59.

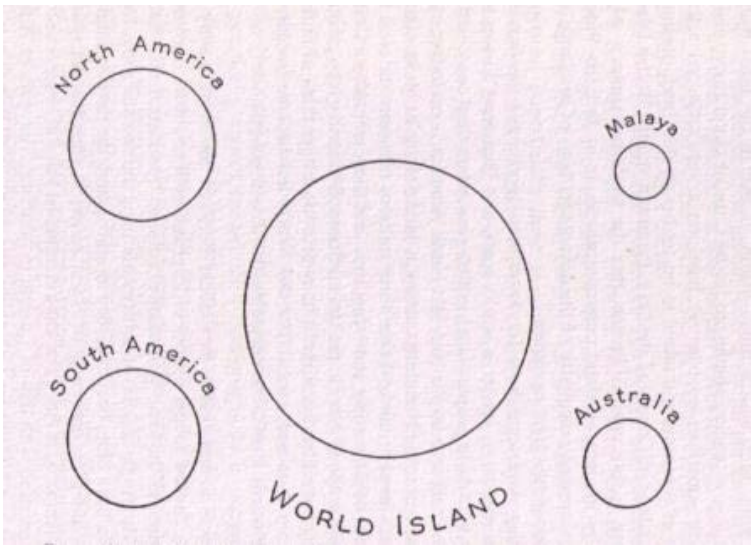

Figure 3. The World-Island and Its Satellites
Source: Halford Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 48.

This was an original departure from Mahan's thesis that sea power, not land power was the dominant factor in history. By articulating his thesis supported by the then latest information on population, resources, production, and transportation nodes, Mackinder laid the foundation for the future of geopolitics. In his thesis, whoever dominated the World-Island would dominate the entire world. Within the World-Island, Mackinder posited, there was what he called the Geographical Pivot of History, later renamed the Heartland. This area was the key to commanding the rest of the World-Island. These ideas were presented in a paper delivered to the Royal Geographical Society in 1904.[21]

[21]Andreas Dorpalen, *The World of General Haushofer, Geopolitics in Action.* (Port Washington: Kennikat Press, 1942), 220.

Geographical Pivot of History (Heartland)

Mackinder used hydrological analysis to determine this Geographical Pivot of History. His logic was that all of the rivers in this area either flowed into the frozen Arctic Ocean, or emptied into salt seas inland. This made maritime invasions into the Geographical Pivot of History impossible, so the inhabitants of this area were protected from the sea powers emanating from the marginal or insular crescent (figure 4). The boundary, as seen in figures 5 and 6, is almost entirely based on hydrology. Additionally, the Gobi Desert and the Siberian hinterlands protected the Geographical Pivot of History from East Asia, while the Caucasus Mountains, the Pamir, the Hindu Kush, the Taklimakan Desert, and the Iranian Plateau protected the Geographical Pivot of History from the Middle East. From Europe, the Geographical Pivot of History was protected by the harsh climate of the Russian plains, along with the Pripet marshes.

Figure 4. Mackinder's Geographical Pivot of History
Source: Mahdi Darius Nazemroaya, "Europe and America: Sharing the Spoils of War," http://www.globalresearch.ca/index.php?context=va&aid=6423 (accessed 28 June 2011).

This Geographical Pivot of History, protected from the rest of the World-Island (Eurasian Continent) was the bastion of land power that could and would command the rest of the World-Island.[22]

The use of river basins as a foundational layer of geopolitical study was continued by many other geogrpahers after Mackinder. As humans need water to thrive, people tend to live along rivers, with nation groups congregating within a common river basin. As major river basins are separated by major mountain ranges, the river basins serve to keep different races and ethnic groups apart from each other. Perhaps, the geographical distancing caused by the river basin settlement patterns, helped create the different races and ethic diversity we observe in modern humans today.

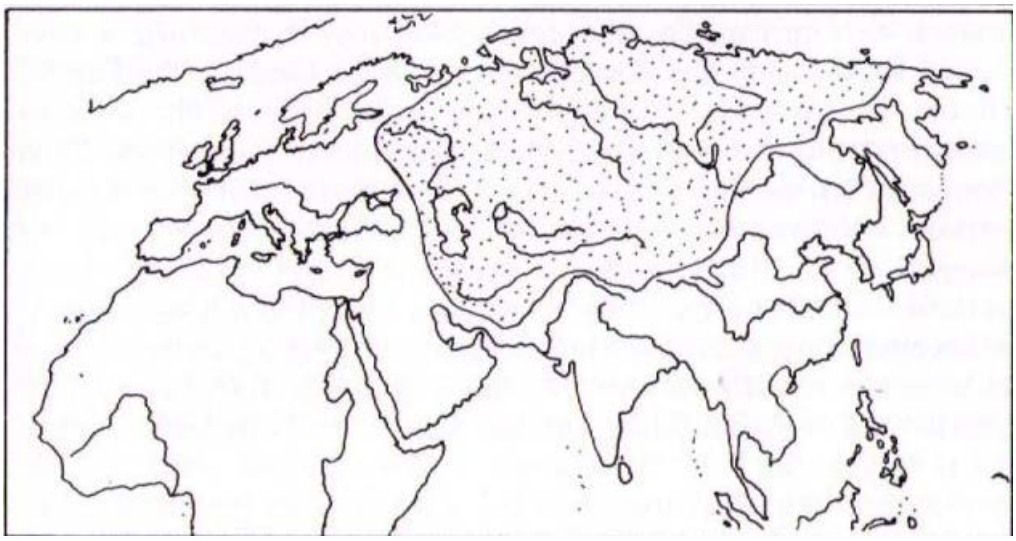

Figure 5. The Geographical Pivot Defined by River Drainages
Source: Agusto Pinochet Ugarte, *Geopolitica* (Santiago de Chile: Editorial Andres Bello, 1981), 239.

[22]Halford Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942).

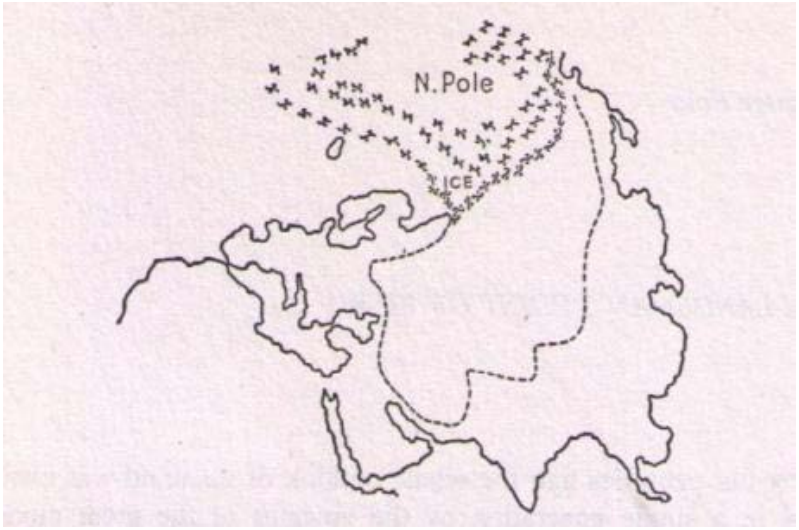

Figure 6. The Geographical Pivot protected by the icy sea from Sea Power
Source: Halford Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 54.

Over time, the boundaries of the Geographical Pivot of History evolved in accordance with developments of the time. In 1904 when Mackinder identified the Geographical Pivot of History, he was mainly countering Mahan's sea power theory by identifying a land power core that was inaccessible by sea. The accelerating development of railroads in the late 19th century allowed Mackinder to predict that the vast inner land of Eurasia would be more accessible in the 20th century, allowing a state to leverage the location and the resources of this expanded Geographical Pivot of History.

In 1919, in his book titled *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* , Mackinder expanded the Geographical Pivot of History further and renamed it the Heartland. With the dismemberment of Austria-Hungary, and the reduction of Germany, Mackinder believed that the old Central Europe, or *Mitteleuropa* was now key to controlling the geographical pivot of history. Seeing that the Baltic Sea and the Black Sea were effectively closed off by Germany and Turkey during World War

I, Mackinder added the land whose rivers drained into these seas, expanding the Heartland. His Heartland now included much of Central and Eastern Europe, as well as Northern Anatolia and the Caucasus. In the East, the defeat of Russia by Japan in 1905, the fall of the Manchu Qing Dynasty and the founding of the Republic of China in 1912, as well as the capture of German Asiatic possessions in China and the Pacific by Japan in 1914 prompted Mackinder to include the upper reaches of the Yellow River, Mongolia, and Tibet in the Heartland.

Mackinder removed the Asian portion of the Heartland in 1943, probably due to his observation that the Sino-Japanese War had little to no impact on the Heartland despite Japanese domination of the majority of the "Inner Crescent" of Asia. The map in figure 7, crafted by Saul B. Cohen, shows the evolution of Mackinder's Heartland from 1904 to 1943.

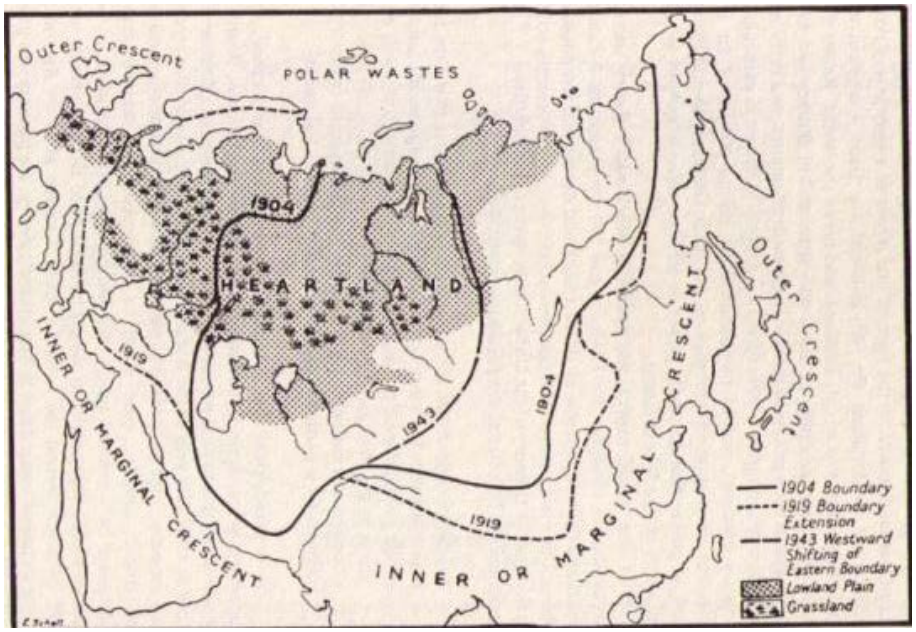

Figure 7. Mackinder's Development of the Heartland

Source: Colin Gray, *The Geopolitics of the Nuclear Era: Heartland, Rimlands, and the Technological Revolution* (New York: Crane, Russak and Company Inc., 1977), 24.

Mackinder was a strong proponent of the establishment of the seven new states in Eastern Europe to serve as a buffer between Germany and Russia. Geopolitically, these new states physically blocked both Germany and Russia from attacking one another directly. With Great Britain guaranteeing the security and independence of Poland, on paper this new arrangement would prevent such a war. As a British subject, Mackinder saw the danger of the domination of the entire Heartland by a single state against a sea power such as the Great Britain. This fear of a single state dominating the Heartland would have a continuing lasting impact throughout the 20th century among many governments throughout the world, as will be described later in this chapter.

Avenues of Approach

Mackinder also sought to explain the details of European and Slavic History through the use of the same sciences. The first way he sought to explain history through geography, geology, and hydrology was by creating movement routes, both maritime and land based. He did not create a specific name for these avenues of approach. For the purpose of this research paper, the term “avenues of approach” as borrowed from the US military doctrine circa 2011 is used.

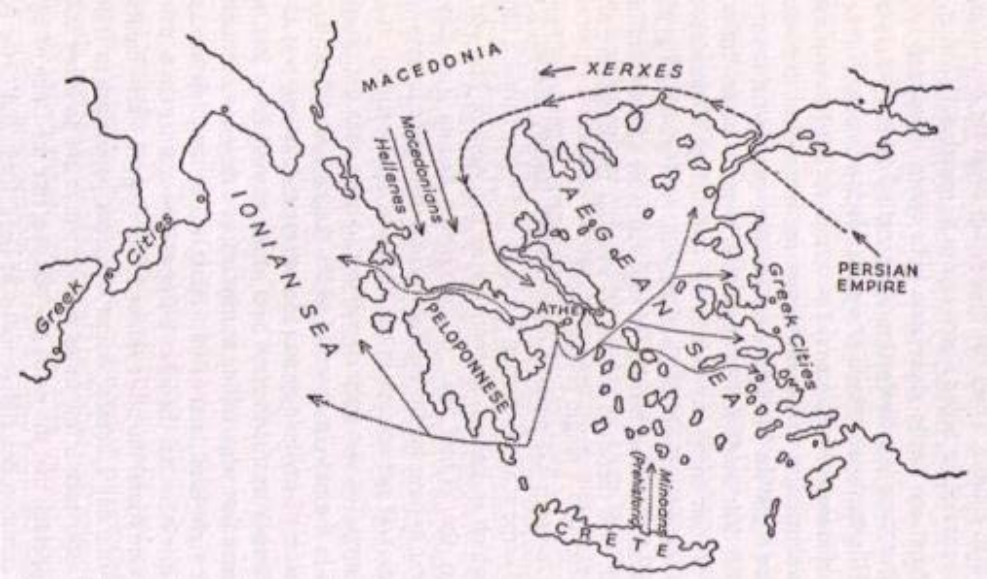

Figure 8. Land and Sea Movement Corridors during the Persian War
Source: Halford Mackinder, *Democratic Ideals and Reality*: *A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 26.

Figure 8 shows the disposition of the Greek states versus the Persian invaders during the Classical age of Greece. By showing how the Athenians and their fellow Greek allies controlled the Aegean basin and by extension, the Ionian Coast with its Greek colonies, Mackinder showed geographically how the Persians were canalized into using the Dardanelles crossing and then moving to Thermopylae.

Avenues of Approach can enable allow rapid movement of large bodies of soldiers through a territory, but they also have the effect of canalizing them at specific chokepoints, with specific results. In this case, the result was a strategic delay of the Persians by the Spartans at the pass of Thermopylae, (a canalizing chokepoint) which enabled the Athenian navy to decisively defeat the Persian Fleet, forcing the land power, Persia, to retreat.

The map in figure 9 shows a similar effect of geography on Alexander's Macedonians, Hannibal's Carthaginians, and the Roman Republic around the Mediterranean drainage basin. Since the Persian Empire dominated the Eastern Mediterranean through their Phoenician Naval Forces based out of Tyre, Alexander was forced to conduct a landward march around Asia Minor and Syria to attack and neutralize the Persian Navy at Tyre, via land. Only then, with his maritime line of communication secure, was Alexander able to continue his conquest eastward towards Persia proper.

Figure 9. Land and Sea Movement Corridors during the Second Punic War
Source: Halford Mackinder, *Democratic Ideals and Reality*: *A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 30.

The same map shows the effect of Roman control of Sicily and its maritime control of the Western Mediterranean on the land forces of Carthage. Unable to penetrate the Roman naval screen, Hannibal was forced to make a landward invasion of Rome via Iberia, Southern Gaul and Northern Italy on foot. These examples illustrate how

Mackinder tied history, geography, and geology together into a coherent explanation for military movement and maneuver in the past.

Mackinder examined the effect of topography and vegetation on national boundaries as well, using the example of Eastern Europe prior to industrialization. As can be seen in figure 10, much of Eastern Europe in what is now Russia. The Ukraine, Belarus, Poland, and the Baltic States were divided into two major regions with distinctive vegetation and topography. The northern region was composed mostly of forests and marshes, while the southern region was a long unbroken chain of steppe leading eastward through Turan and Mongolia all the way to Manchuria.

Figure 10. Geographic Division of Eastern Europe
Source: Halford Mackinder, *Democratic Ideals and Reality*: *A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 178.

Mackinder showed how this topographical distinction caused two different civilizations to coexist in the two regions. On the eve of the Mongol invasion, Eastern Europe was already divided into two cultures (see figure 11). In the northern forested region, agricultural Slavs and Balts lived in an society ruled under a European feudal system. In the southern region, nomadic Cumans practiced an Asian pastoral lifestyle from horseback. Their separation was a function of the geography.

Mackinder emphasized that the Mongols were not the first nomads to invade Europe from the steppe. He stated that even prior to the Huns and the Scythians, there likely were Asian incursions into Europe, citing the presence of brachycephalic[23] people in central Europe as a vestige of ancient Asian incursions into the continent.[24]

[23]Brachycephalic skull is rounded and more typical among East Asians than among Caucasians, who are typically Dolichocephalic, with longer and narrower skulls.

[24]Mackinder, 182-183.

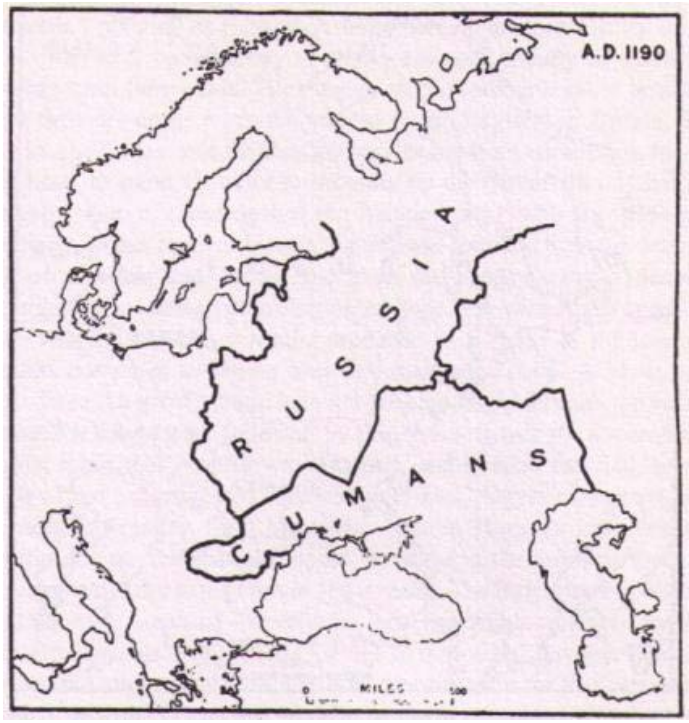

Figure 11. Settlement Patterns of Russia Prior to the Mongol Invasion
Source: Halford Mackinder, *Democratic Ideals and Reality*: *A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 179.

Figure 12 shows the disposition of successor kingdoms of Mongols after the fall of the Khanate of the Golden Hordes which conquered and ruled Russia between 1241 and 1502. Interesting to note is the boundary between traditional agriculture dominated European states of Poland and Russia versus the successor kingdoms of the Mongols. That boundary roughly coincides with the topographical boundary between the forested land of the north and the steppe of the south. By combining various modern sciences of geography, topography, hydrology, and even anthropology, Mackinder had created a new genre of science to explain history and politics.

Figure 12. Settlement Patterns after the Mongol Invasion
Source: Halford Mackinder, *Democratic Ideals and Reality*: *A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 180.

Inner and Outer Crescent

In Mackinder's view, he who could unite and command the Heartland would rule the entire World-Island, as the Heartland was the decisive terrain of the entire World-Island. As previously discussed, the Heartland was the only large resource rich area of land, which was naturally protected from invasions on all sides. According to Mackinder, the nations in the Inner or Outer Crescent were destined to be dominated by the state that would unite and exploit the true potential of the Heartland. The sea powers of the Inner and Outer Crescent would have to band together to prevent the land power from the Heartland from dominating the entire World-Island.

Figure 13. Mackinder's Inner and Outer Crescents
Source: Mahdi Darius Nazemroaya, "Europe and America: Sharing the Spoils of War," http://www.globalresearch.ca/index.php?context=va&aid=6423 (accessed 2 July 2011). The Label on this map is wrong, in that Mackinder did not use the term "Heartland" in 1904, but in 1919. In 1904, he referred to Heartland as "the geographical pivot of history."

It would be impossible to attack or interdict the Heartland using sea power alone, as its river estuaries were not accessible by the sea powers of the Inner and Outer Crescent. As such, to dominate the Heartland, the sea powers of the Inner and Outer Crescent would have to slowly fight their way through the Inner Crescent with all of its natural geographic obstacles to penetrate the Heartland, much like Napoleon in 1812.

He was quite ahead of his time to even ask his readers in 1904 to consider Europe and the history of Europe as subordinate to Asia and Asian history, as he states, "European civilization is, in a very real sense, the outcome of the secular struggle against

Asiatic invasion."[25] The eventual domination of the world by a land power that would unite the Heartland was a very possible conclusion according to his theory.

He envisioned several scenarios in which the Heartland would be united under a single entity that would dominate the World-Island. The first, was that of a modern industrialized European power conquering Russia, and then the rest of the World-Island. The second, was that of Germany and Russia uniting against the sea powers of the Inner and Outer Crescent (Great Britain and the US). This was a nightmare scenario according to Mackinder, with devastating consequences for both Britain and the US. The third possibility, but an unlikely scenario, was the conquest of Russia by China or Japan.[26] The improving road and rail networks through Russia, connecting the Heartland to Europe and the Far East, as well as the slow but sure industrialization of Russia, showed that Mackinder's predictions were slowly being shaped by the force of history.

Mackinder's works in 1904 and 1919 were not received with great enthusiasm in the UK or the US. However, they were studied by scholars in Germany who finally codified this ongoing study of geography combined with geology and history into a single unified science. Within Mackinder's work lay some interesting concepts that appealed to the rising German nationalism of the time.

[25]Mackinder, 177.

[26]Ibid., 191-192.

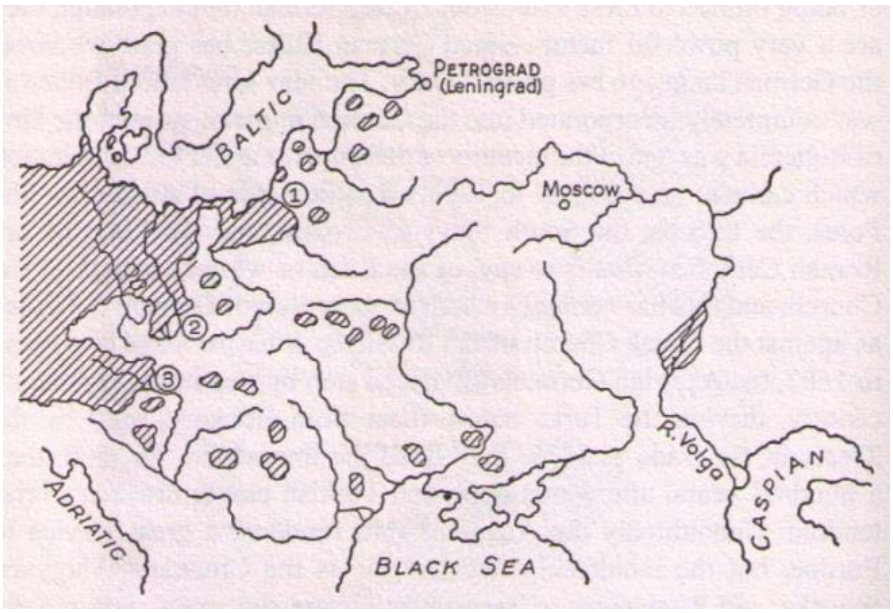

Figure 14. Ethnic German Enclaves throughout Russia and Ukraine as of 1919
Source: Halford Mackinder, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction* (Washington, DC: Henry Holt and Company, 1942), 94.

Tying in his prediction of a possible domination of the Heartland by a European power, Mackinder showed how the German people, even prior to their recent unification under Prussia, had begun expanding into Eastern Europe, towards the Heartland in search for agricultural space.

This small tidbit of information, in addition to the dictum of Eastern European command of the Heartland, added to what the German scholars would eventually build into an entire ideology supported by the German science of *Geopolitik*. However, it must be stressed that Mackinder did not agree with the conclusions or the methodology used by the German practitioners of *Geopolitik*. As an ardent British Royalist patriot, who insisted on the Anglicized spelling of his Scottish name, (Mackinder instead of the usual MacKinder), Mackinder was an explicit anti-Nazi and purposefully chose not to use the

term geopolitics, to distance himself from the Germans.[27] Mackinder described his work as "political geography" instead.

Karl Ernst Haushofer and *Geopolitik*

Major General Karl Haushofer (1869-1946) of the German Army completed the development of *Geopolitik* as a new sub-genre of political science. Combining all previous theories of political geography and geopolitics of Mahan, Mackinder, Ratzel, and Kjellén, Haushofer created a cogent theory that explained history and politics based on the organic theory of the state. Haushofer linked Kjellén's ideas of economic autarky and *Lebensraum* with Mackinder's Heartland dictum.

Haushofer took the concept of the Heartland from Mackinder, but applied it to each and every nation of the world, instead of just using it on a global level. In Haushofer's organic theory of the state, the following key concepts are identified within the state organism: the Heartland, the hinterland, frontiers, and lines of communication. Within this organism, the frontier, or the Border, remains dynamic, a la Ratzel.

The dynamic Border is supported by a strong hinterland, which is sustained by its network of arteries and veins in the form of lines of communication. Figure 15 compares the cross section of a tree to the nation of Chile to illustrate the concepts of the Heartland, the hinterland, frontiers, and lines of communication.

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[27]C. Dale Walton, *Geopolitics and the Great Powers in the Twenty-first Century: Multipolarity and the Revolution in Strategic Perspective* (New York: Routledge, 2007), 15.

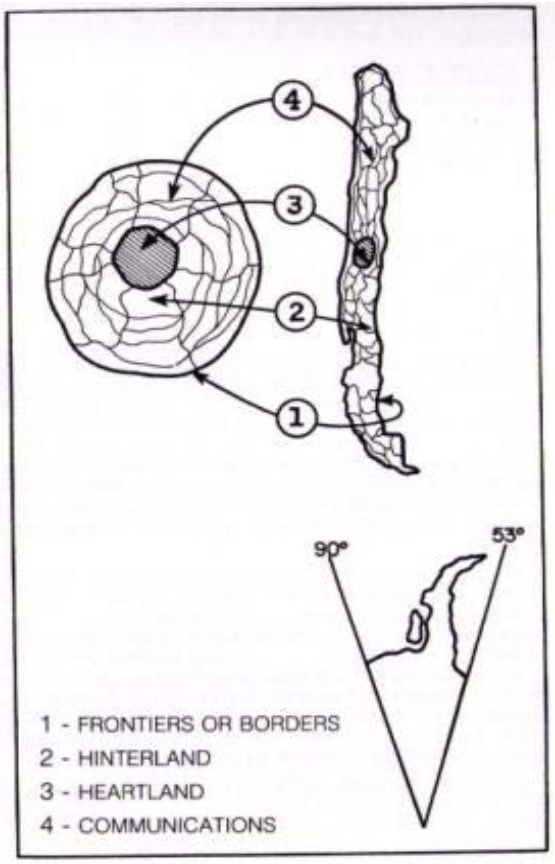

Figure 15. Heartland and Hinterland of Chile Compared to a Tree Ring
Source: Agusto Pinochet Ugarte, *Geopolitica* (Santiago de Chile: Editorial Andres Bello, 1981), 68.

Another interesting point from Haushofer is a state's tendency as an organism to expand towards the sea, starting from its national Heartland. Two examples of Russia and France are given in figure 16. This is explained by Haushofer as a nation's desire to expand its commercial realm by securing its coast, harbors, and tapping into the sea lines of communication.

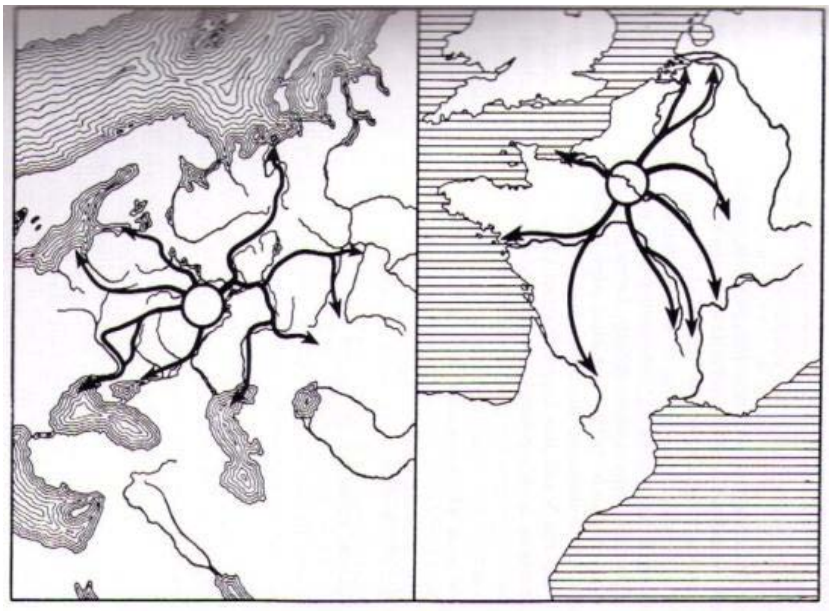

Figure 16. A nation's natural desire to expand towards the ocean
Source: Agusto Pinochet Ugarte, *Geopolitica* (Santiago de Chile: Editorial Andres Bello, 1981), 87.

This idea of a land power seeking access to the sea was used to explain Russia's desire to seek ice free ports for its navy. Russia's ports in the White Sea near Murmansk and Severodvinsk/Arkhangelsk freeze in winter due to its northerly location. The rest of its northern coast is frozen most of the year. Its ice free ports in St. Petersburg/Baltic Sea and Odessa in the Black Sea are essentially sealed off due to their proximity to natural chokepoints, both in the Baltic Sea and the Turkish Straits. As such, Russia had been seeking access to ice free ports throughout its modern history. By its establishment of Vladivostok, Russia had gained one, but its extreme East location made its utility almost irrelevant to the Heartland of Russia. By this logic, Russia would continue to seek out ice free ports connected to its Heartland other than the Baltic Sea or the Black Sea. In Haushofer's view, Russia as an organism, would perennially seek to dominate or

otherwise gain access to coastal areas of Central or Western Europe precisely driven by its desire for ice free ports.

Figure 17 illustrates Russia's quest for ice free ports throughout its modern history. This tendency, according to Haushofer, is what drove Russia towards the Baltic Republics before and after World War I. Its geographical destiny as an organic state would drive Russia to dominate all of Europe, eventually uniting the Eurasian World-Island.

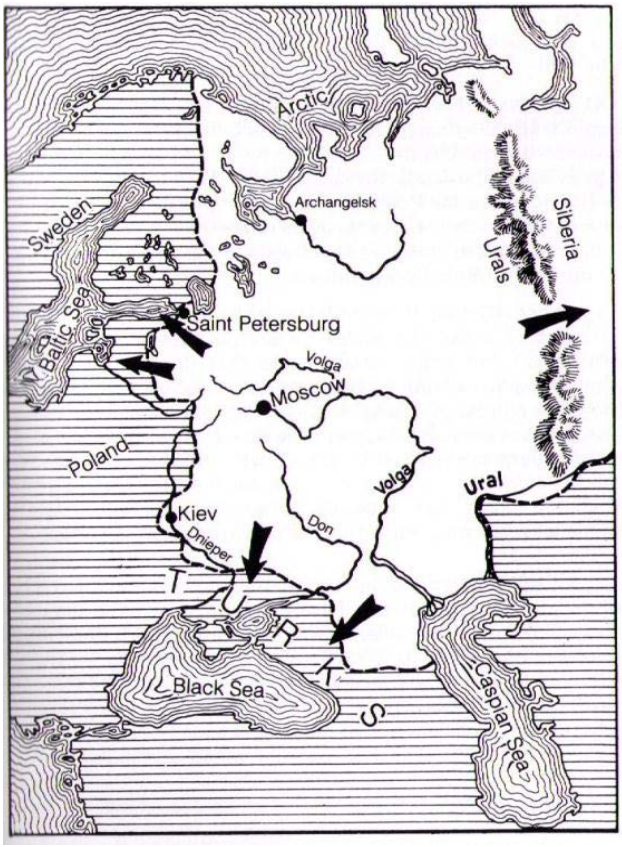

Figure 17. Russia's Quest for Ice-free Ports
Source: Agusto Pinochet Ugarte, *Geopolitica* (Santiago de Chile: Editorial Andres Bello, 1981), 95.

Traveling through the Japanese Empire and Siberia from 1908 to 1910, Haushofer came to appreciate the stark contrast between a land power and a sea power. Impressed by the unity of will among the Japanese people, their military, and their government, Haushofer developed a notion that the Germans should not only emulate the Japanese in their recent military campaign in Manchuria, but also in their methodical annexation of Korea with minimum violence.

He began to develop a worldview, where Germany would be allied with Russia, China, and Japan, to create an indomitable power in the Heartland to defend against what he considered to be the greatest threat to Germany, the sea power of Great Britain. Reflecting his lifelong respect for the Japanese, he formulated this world view, composed of several "pan-regions," also influenced by the Western Hemisphere bloc declared by the Monroe Doctrine.

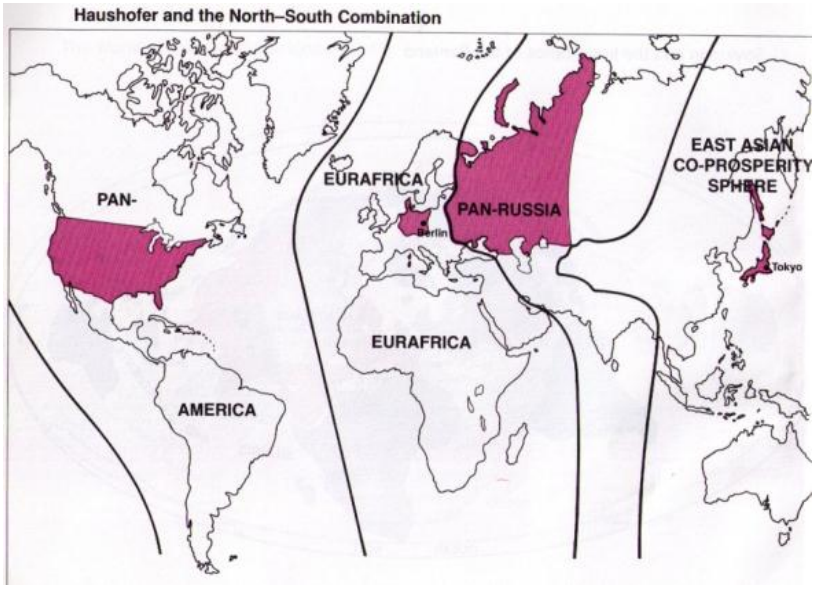

Figure 18. Haushofer's Pan-regions
Source: Gerard Chaliand and Jean-Pierre Rageau, *Strategic Atlas* (New York: Harper and Row Publishers, 1983), 24.

Combining the idea of autarky with militarily and culturally dominant hegemons of each pan-region, Haushofer created the view in figure 18, which came to symbolize his world view. He saw the above figure as a naturally stable view of the world, with Germany dominating Euroafrica, Russia dominating the Pan-Russia, with Japan dominating the East Asian Co-Prosperity Sphere, and the US dominating the Western Hemisphere. Russia has its access to ice free ports via Persia and India through Afghanistan. Germany and its European periphery retains autarky by monopolizing the natural resources of Africa and the Middle East. Japan is allowed to "liberate" the former colonial possession of England throughout East Asia.

From his pulpit at the University of Munich, Haushofer published the world's first *Geopolitik* journal in 1919. *Zeitschrift für Geopolitik* became a regular monthly publication in 1923. One of his students at Munich was Rudolf Hess, a veteran of World War I. They became close in 1919 when Hess began to attend Haushofer's lectures, and in 1921, Rudolf Hess introduced Haushofer to Adolf Hitler. When Rudolf Hess became Hitler's Deputy in 1933, Haushofer practically had a direct line to Hitler himself. Hitler's *Mein Kampf,* published in 1925 and 1926 has many ideas directly taken from Haushofer's *Geopolitik*.[28]

[28]Andreas Dorpalen, *The World of General Haushofer, Geopolitics in Action* (Port Washington: Kennikat Press, 1942), 19-21.

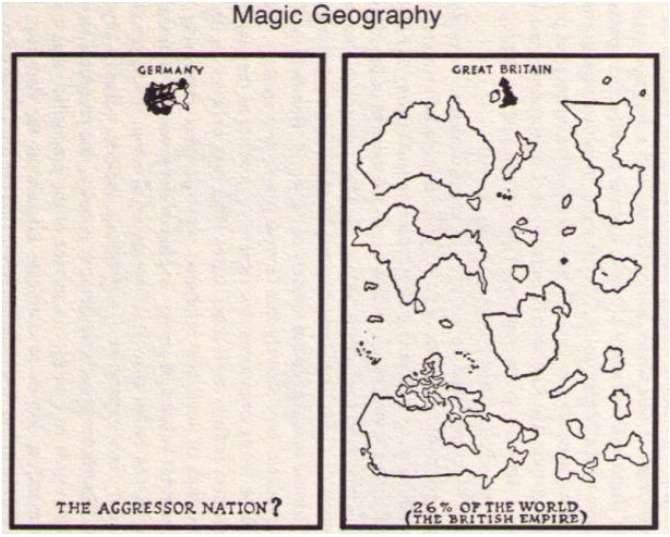

Figure 19. Magic Geography Used by Germany against Britain in WW II
Source: Colin S. Gray, *The Geopolitics of the Nuclear Era: Heartland, Rimlands, and the Technological Revolution* (New York: Crane, Russak and Company Inc, 1977), 30.

Use of geography for political propaganda in support of aggression resulted in many works of *Geopolitik* being exposed and labeled as "magic maps."[29] These magic maps, or hijacked geopolitical works, served specifically to buttress the Nazi's racist and aggressive ideology and foreign policy. The map in figure 19 shows one example where a clever juxtaposition of geography seems to suggest that Germany cannot possibly be the aggressor against the UK. Missing in the map is the relative land power between the two nations and Germany's allies and their possession. Also missing is the fact that much of the land masses depicted is wilderness or otherwise unpopulated and undeveloped. Obviously, using geography to explain the past was academic, but using it to prescribe war and conquest was not exactly scientific. Despite being cleared by the Nuremburg

[29]Nicholas J. Spykman, *The Geography of the Peace* (New York: Harcourt, Brace and Company, 1944), Chapter 2.

trials, Haushofer committed suicide. His works were quietly and unfairly shelved, not to be used again until another geopolitical threat came to threaten world peace, this time with potential nuclear holocaust.

Nicholas J. Spykman and the Rimland Theory

Nicholas Spykman (1893-1943), a Dutch born American Professor of International Relations at Yale University, was the first geopolitical scientist to explicitly revise Mackinder's Heartland dictum. Haushofer had agreed with Mackinder and elaborated on his Heartland dictum. Spykman would actually build an opposing theory to Mackinder's Heartland dictum, while agreeing with his concepts.[30]

While suffering from cancer, Spykman wrote two books that influenced the development of the US policy of containment against the Union of Soviet Socialists Republics (USSR) during the Cold War. In *America's Strategy and World Politics* published in 1942 he argued against the US following an isolationist foreign policy. He was a strong believer in the balance of power and his final book, *The Geography of the Peace*, published in 1944, a year after his death, became the blueprint for maintaining peace and balance in the Post War period. It accurately predicted the geopolitical situation during the Cold War, and arguably allowed the US to shape a victorious policy.[31]

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[30]Ciro E Zoppo and Charles Zorgbibe, *On Geopolitics: Classical and Nuclear* (Bordrecht: Martinus Nijhoff Publishers, 1985), 104-109.

[31]Ibid., 77-118.

Even as Mackinder was revising his Heartland theory in 1943, Spykman went one step further, correctly predicting that Germany and Japan would lose the war, and that the US and USSR would face off against each other, with the USSR dominating the entire Heartland and the US remaining in the Outer Crescent. According to Mackinder's Heartland dictum, once the USSR defeated Germany and dominated Eastern Europe, it would be nearly undefeatable, as it commanded the entire Heartland. Spykman's theory of the Rimland challenged Mackinder's Heartland dictum and provided the US and its allies a viable counterstrategy.[32]

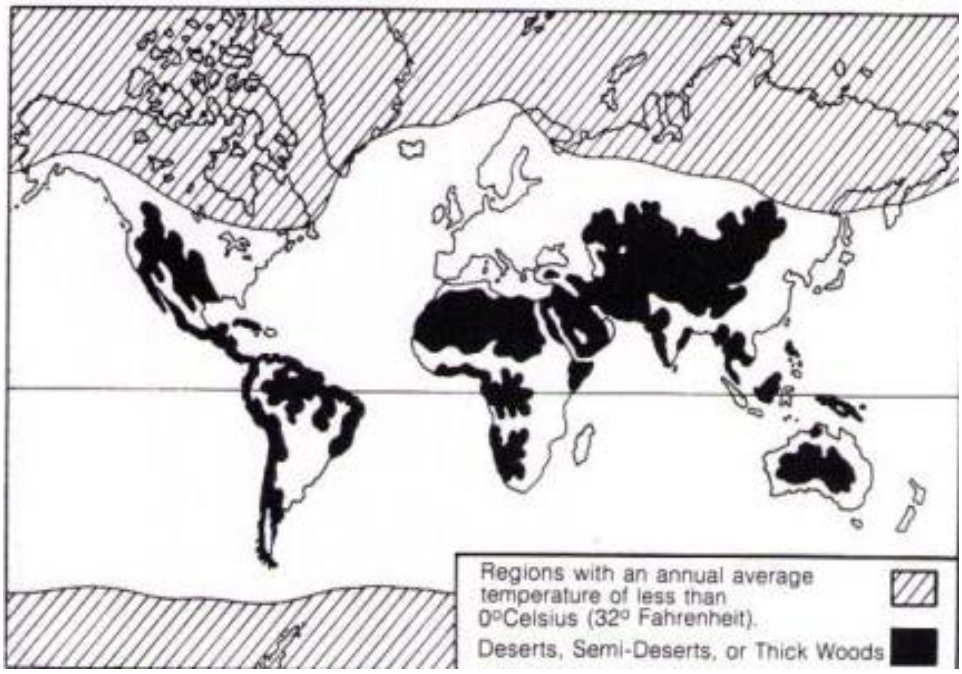

Figure 20. Uninhabitable Regions of the Globe
Source: Agusto Pinochet Ugarte, *Introduction to Geopolitics* (Santiago de Chile: Editorial Andres Bello, 1981), 74. This is Pinochet's work, not Spykman's, but it illustrates the same point.

[32]Gray, 27.

Spykman studied Mackinder's Heartland dictum in detail and found some weaknesses within it. Although agreeing with Mackinder that the Heartland was impervious to an amphibious or naval attack, he also noticed that much of the Heartland was simply uninhabitable (see figure 20 and 21). Also, the promised acceleration of industrialization through the growth of rail network had not occurred by the 1940s. A detailed study of the topography and climate of the Heartland proved that its Eastern half was mostly wilderness, and the northern half of it was permafrost. Spykman was soon convinced that the Heartland was not the geographical pivot of history, as Mackinder claimed.

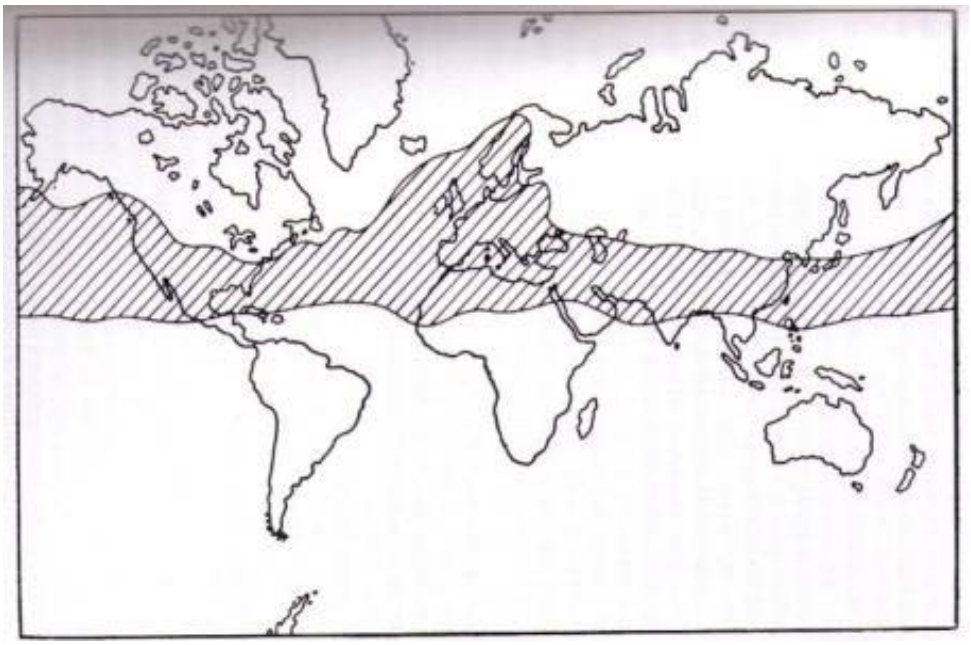

Figure 21. Habitable Regions of the Globe
Source: Agusto Pinochet Ugarte, *Introduction to Geopolitics* (Santiago de Chile: Editorial Andres Bello, 1981), 105. This is Pinochet's work, not Spykman's, but it illustrates the same point.

After studying the greater history of the region of Heartland and its surrounding areas, Spykman concluded that it was not the Heartland that was the geographical pivot of history. Rather, Spykman decided that what Mackinder called the Inner Crescent was the true pivot of history. Spykman renamed this area "Rimland."

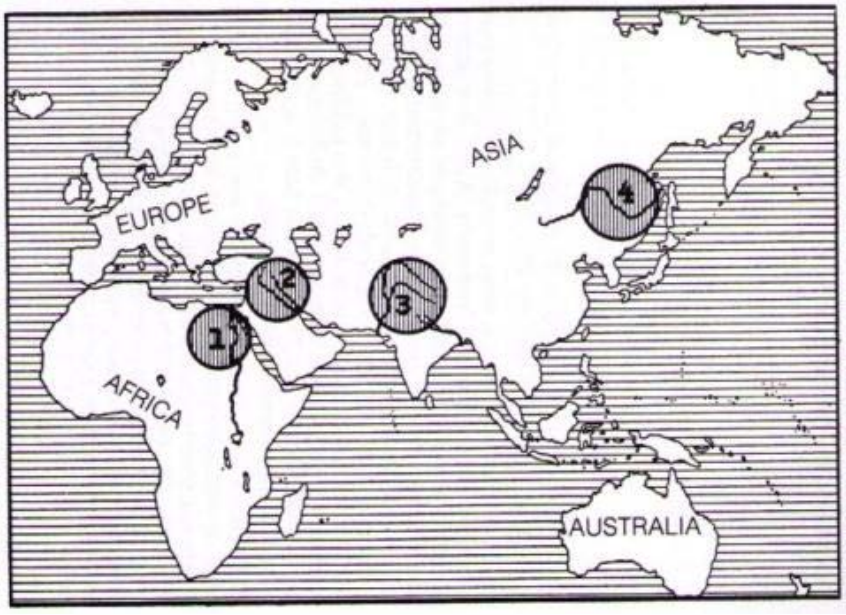

Figure 22. The Four Original Civilizations of the Ancient World
Source: Agusto Pinochet Ugarte, *Introduction to Geopolitics* (Santiago de Chile: Editorial Andres Bello, 1981), 84.

According to Spykman, Rimland is where all of the four original civilizations of humankind originated from. Much of the global natural resources as well as industry also lay in this Rimland. Spykman soon built an entire geopolitical theory around the Rimland concept. His last book, *The Geography of Peace*, was essentially devoted to laying out his Rimland theory with predictions about the coming global balance of power array between the US and USSR. In this work, Spykman correctly predicted the two major

winners of WW II and the confrontational relationship they would have for the next 50 years.

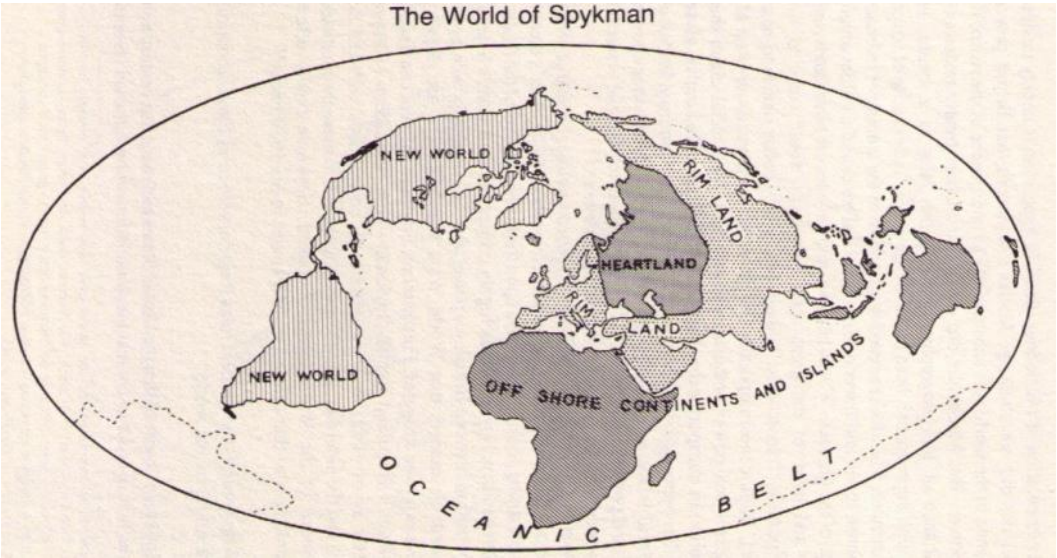

Figure 23. Spykman's Rimland
Source: Colin S. Gray, *The Geopolitics of the Nuclear Era: Heartland, Rimlands, and the Technological Revolution* (New York: Crane, Russak and Company Inc., 1977), 28.

According to Spykman, much of human history is a continuation of either a land power from the Heartland trying to dominate the Rimland, or a Sea Power trying to dominate the Rimland. He also renamed the Outer Crescent of Mackinder as "offshore islands and continents." This new theory was a direct result of his observation from modern history. Spykman noticed that all of the wars of the 19th century as well as the 20th century were between alliances of sea powers and Heartland land powers to either defend against or conquer the Rimland.

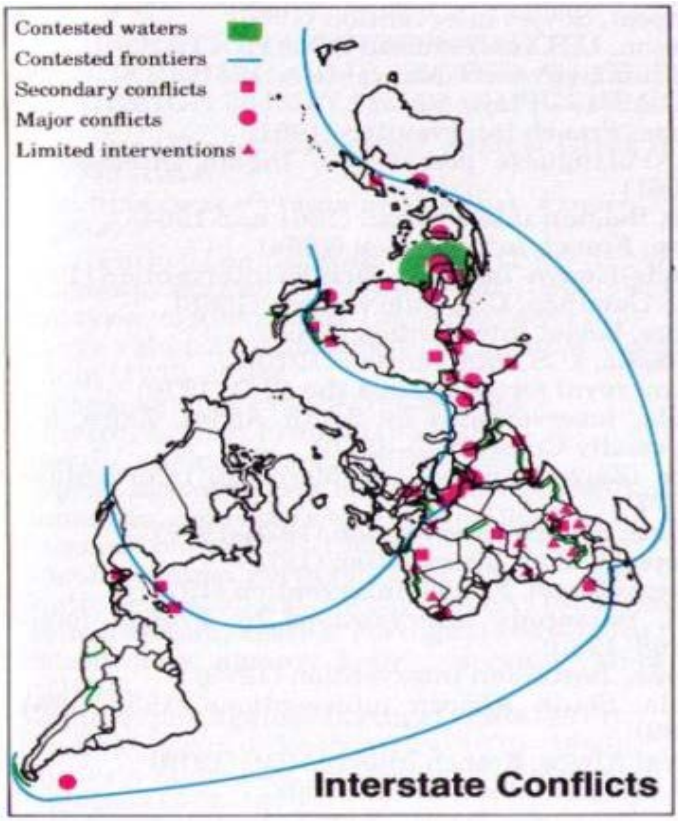

Figure 24. Conflicts in the World since 1945
Source: Gerard Chaliand and Jean-Pierre Rageau, *Strategic Atlas* (New York: Harper and Row Publishers, 1983), 47.

Going one step further beyond the defeat of Germany, Spykman, in his prescience, saw in 1943 that the coming war against Russia would be fought in the Rimland by the alliance of sea powers, led by the US and UK. This became the fundamental geopolitical underpinning of the theory and policy of containment in the late 1940s. His predictive abilities were further proven when the first proxy war of the greater Cold War between the US and USSR erupted in the eastern edge of the Rimland, in Korea, 1950. Throughout the Cold War all of the small proxy wars between the two opposing ideological camps were fought in the Rimland.

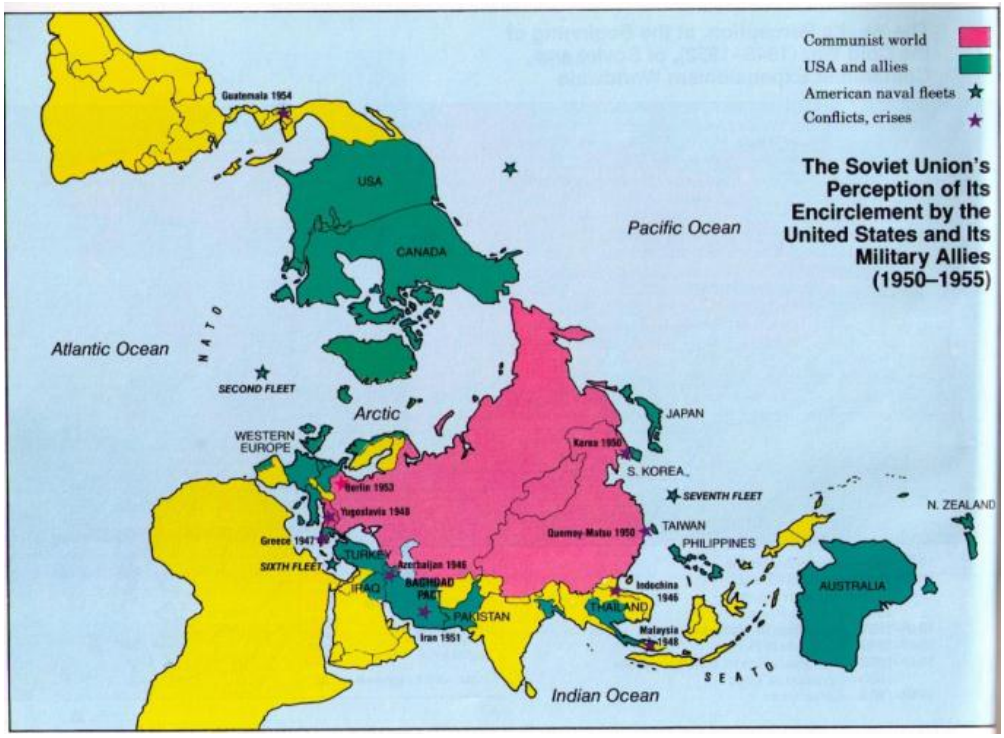

Figure 25. Conflicts in the Rimland between USSR and US Proxies (1950-1955) *Source*: Gerard Chaliand and Jean-Pierre Rageau, *Strategic Atlas* (New York: Harper and Row Publishers, 1983), 44.

By predicting the balancing of US sea power against the Soviet Heartland land power, Spykman brought the concept of the balance of power into geopolitics. For over 40 years, the policy of containment prevented the Soviet Union from taking over the entire Rimland, while shaping the environment for its loss of control over Eastern Europe and its final disintegration. He further advocated strengthening Germany and Japan as American allies after their defeat. His desired situation in Europe was a collection of independent states allied with the US in a defensive alliance against the Soviets. He did not favor the creation of a unified European collective, that could potentially challenge the US in the future.

Predicting Japan's defeat in WW II, Spykman saw China as the new rising power in eastern Rimland. His formula for peace was for the US to assist Japan in rebuilding and balancing against China. He also foresaw China and Russia struggling over "Border" issues. All of his predictions came true within decades after his death.[33]

The Containment Policy of the United States

Directly influenced by the geopolitical theories of Mahan, Mackinder, and Spykman, George Kennan, an American Diplomat serving as the Deputy Chief of Mission in Moscow, in response to a query from the Treasury Department in 1946, to the State Department, asking for an explanation of why the Soviets were opposed to the World Bank and the International Monetary Fund, composed the now famous "Long Telegram," explaining the source of Soviet behavior.

Kennan explained in the telegram his view that the Soviets were incapable of compromising with the West, and that the Soviets considered themselves at perpetual war with the capitalist West, driven not only by their ideology, but by their centuries old Tsarist expansionism. Kennan's conclusion was that the existing American policy of using logical reasoning was a failure and that the Soviets only understood the logic of force. His telegram convinced President Truman and his staff to immediately adjust the American diplomacy to show a patient but firm attitude to the Soviets throughout Europe.

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[33]Exploringgeopolitics.org, "Exploring Geopolitics: The Many Faces of Geopolitics-Federico Bordonaro," http://www.exploringgeopolitics.org/Publication_Bordonaro_Federico_Rediscovering_Spykman_Rimland_Geography_Peace_Foreign_Policy.html (accessed 30 September 2011).

Kennan's' follow up article, "The Sources of Soviet Conduct," in *Foreign Affairs* magazine, 1947, actually used the word Containment.[34]

Adopted[35] and declared as the Truman Doctrine, on 12 March 1947, the Doctrine of Containment now set in motion, a series of events with only two possible conclusions: that of a change in the Soviet system or its collapse.[36] The Doctrine of Containment guided the US for the next 40 years until the fall of communism, which vindicated its ultimate value and utility. Throughout the Cold War, US administrations focused on containing the Soviet threat throughout the Rimland, as prescribed by Spykman in 1943. All of the so called limited wars between allies of the US and USSR during this period occurred in the Rimland as illustrated in figure 26.

During the Cold War, many scholars in America came out with new ideas and additions to Mackinder's and Spykman's theories. Chief among them was Saul Cohen of New York, who in 1973 coined the term "Shatterbelt" in his work, *Geography and Politics in a World Divided*. Cohen described Shatterbelt as an area that is already geographically, religiously, culturally, or politically fragmented, that attracts competing

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[34]John Lewis Gaddis, *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy* (Oxford: Oxford University Press, 1982), 19-21.

[35]George Kennan advocated the use of diplomacy and economic power more than military power to contain the Soviets. Paul Nitze, the author of NSC-68 in 1950, which operationalized Kennan's recommendations, strengthened the Containment Policy into a more aggressive policy of roll back around the world. Gaddis, 37.

[36]Henry Kissinger, *Diplomacy* (New York: Touchstone, 1994), 451-453.

superpowers into the region due to its abundant natural resources.[37] He identified the Middle East and Southeast Asia as two examples. As both of these areas identified as shatter belts are within the bounds of Rimland, Saul Cohen had effectively built up on Spykman's Rimland thesis. Philip Kelly tested the Shatterbelt Theory in 1986 using all available data since 1945 and found a 79 percent empirical correlation.[38]

The year 1973 saw another geopolitics scholar joining the new wave of the geopolitics revival. Colin S. Gray, born and educated in England, worked in both the UK and America, as defense advisor in the Reagan Administration, founded a think tank, the National Institute for Public Policy, and worked in numerous other research institutes. His *Geopolitics of the Nuclear Era: Heartland, Rimlands, and the Technological Revolution*, reintroduced to the people of America and Britain the basic concepts of geopolitics. Admitting that geopolitics had been tainted in the 1940s, and that no major works had appeared since Spykman in 1944, Gray illustrated how the Cold War struggle between the US and USSR was best explained by the use of geopolitical concepts.

After explaining the basic Heartland, Rimland, land power and sea power concepts of Mahan, Mackinder, and Spykman, Gray devoted two chapters detailing the then current Soviet goal of breaking out of the Heartland through Rimland, and to explaining how the US must maintain, and strengthen its sea power alliance in the Outer Crescent to guard the Rimland against Soviet attacks. He went to great lengths to explain

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[37]Paul F. Diehl, "Geography and War: A Review and Assessment of the Empirical Literature," in *The New Geopolitics*, ed. Michael Don Ward (Philadelphia: Gordon and Breach, 1992), 133.

[38]Gray, 33-53.

how close the Soviet Union was to capturing all of the Rimland. Within two years of this publication, the Soviet-supported government of North Vietnam had united all of Vietnam under the Communist system. All three countries of the former French Indochina were under Communist domination by 1975. Gray explicitly identified the US as a sea power state, as opposed to the USSR being a Heartland land power. However, in keeping with the times, he supported the domino theory, stating that the US could not simply use its sea power alone and succeed in protecting the Rimland from the Soviets. He has been a strong advocate of of land power, projected from the Outer Crescent to protect US interests in the Rimland.[39]

In 1988, Gray updated and bolstered his geopolitics tome by publishing it as *The Geopolitics of Super Power*. In it, he had evolved away from the domino theory, and advocated the abandoning of the flexible nuclear deterrence option, declaring it no longer effective. He now advocated a less involved America, which should give its Navy the first seat among all of the services. He now believed that a rollback in Europe would not be possible and that America needed to readjust its policy to manage its expectations. Evolving away from his originally aggressive stance of roll back, containment, domino theory advocate, he evolved into balance of power theorist, much like the other geopolitics scholars. His greatest contribution in geopolitics was the reintroduction of Mackinder and Spykman, with an explicit connection of their theories to the US-USSR global rivalry of the 70s and 80s.[40]

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[39]Gray, 33-63.

[40]Colin Gray updated his book one more time, after the end of the Cold War, in 1999. Titled, *Geopolitics: Geography and Strategy* (London: Frank Cass, 1999). It is a

Post Cold War Geopolitics

Zbiegniew Brzezinski, a career political scientist and the former National Security Advisor for the Carter Administration, authored the tour de force of American geopolitics, *The Grand Chessboard*, in 1997. Born to a Polish diplomat in Warsaw, his entire family was posted to Canada when Poland was attacked and conquered by both the USSR and Nazi Germany. His work was the first work of geopolitics that actually used original maps since Spykman in 1944. All others, to include Colin Gray, used the same set of recycled maps from Mahan, Mackinder, and Spykman. Brzezinski stated that with the end of the Cold War, the era of bipolar Heartland versus Rimland struggle and containment was over. He now focused on regional security throughout the world, in direct support of American primacy and global hegemony. He was, and continues to remain, unapologetic in defending America's positive role in the global system, and used geopolitics to prescribe unified policy recommendations rooted in geography. He saw international anarchy as the only alternative to continued US primacy in the world.[41]

Brzezinski introduced two new concepts. They were: Geostrategic Players, and Geopolitical Pivots. With America as the only global hegemon and superpower, he defined geostrategic players as, "states that have the capacity and the national will to exercise power or influence beyond their *borders* in order to alter-to a degree that affects

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comprehensive summary of geopolitical science that spans from Mahan to recent works on "astropolitics." He minimizes the role of German scholars of geopolitics into a single chapter near the end. The only real contribution to the science added by this book is the inclusion of weather analysis used during the age of sail for naval powers.

[41]Brzezinski, 195.

America's interests-the existing geopolitical state of affairs."[42] He listed France, Germany, Russia, China, and India as such geostrategic players. Due to a lack of will or capacity, Japan, the UK, and Indonesia did not make the cut in Brzezinski's view. Geopolitical pivots derived their importance "not from their power and motivation but rather from their sensitive location and from the consequences of their potentially vulnerable condition for the behavior of geostrategic players." Brzezinski's geographic pivots were identified as Ukraine, Azerbaijan, South Korea, Turkey, and Iran.[43]

Moving beyond Heartland and Rimland, Brzezinski identified the continent of Eurasia as the most important geopolitical prize for America. This single entity was nothing more than a combination of Mackinder's Heartland and Spykman's Rimland. The Heartland was no longer an important idea for him, as airpower and ballistic missiles could reach where no navy was able to reach before. He subdivided Eurasia into four areas: Europe: the democratic bridgehead; Russia: the black hole; the Middle East: the Eurasian Balkans/Global zone of percolating violence; and Asia: the Far Eastern Anchor. This was a major revision of the previous geopolitical attempts at categorizing the Eurasian continent. His four regions of Eurasia is an updated version of Mackinder, Spykman, as well as Saul Cohen's Shatterbelt. Significantly, his calling the northeastern portion of the Middle East, including Central Asia the global zone of percolating

[42]Ibid., 40.

[43]Ibid., 41.

violence[44] based on ethnic and cultural fragmentation in the region proved especially prescient leading up to the events following 9/11.

For this research, the most pertinent portion of Brzezinski's theory involves China, which by 1996, was being discussed by many in America as our next potential opponent in the global contest. Brzezinski acknowledged that China had been humiliated in the 1800s, beginning with the Opium War, by foreign powers: Great Britain, Russia, Japan, and the US. Unlike most otherAmerican strategists, Brzezinski did not see a conflict between the US and China as inevitable for the following three reasons:

1. He considered the explosive economic growth of China as unsustainable.
2. He saw too many unintended consequences resulting from Chinese policy driven by a desire for rapid economic growth, to include internal political ramifications.
3. Even if China were able to achieve economic growth without political turmoil, even tripling its Gross Domestic Product (GDP) would leave it among the poorest nations in the world in terms of per capita GDP.[45]

Brzezinski understood China's ambitions to be regional, not global. He described China as pursuing the restoration of its traditional sphere of influence, which he showed in the map contained in the figure 26.

[44]Ibid., 53.

[45]Brzezinski, 158-164.

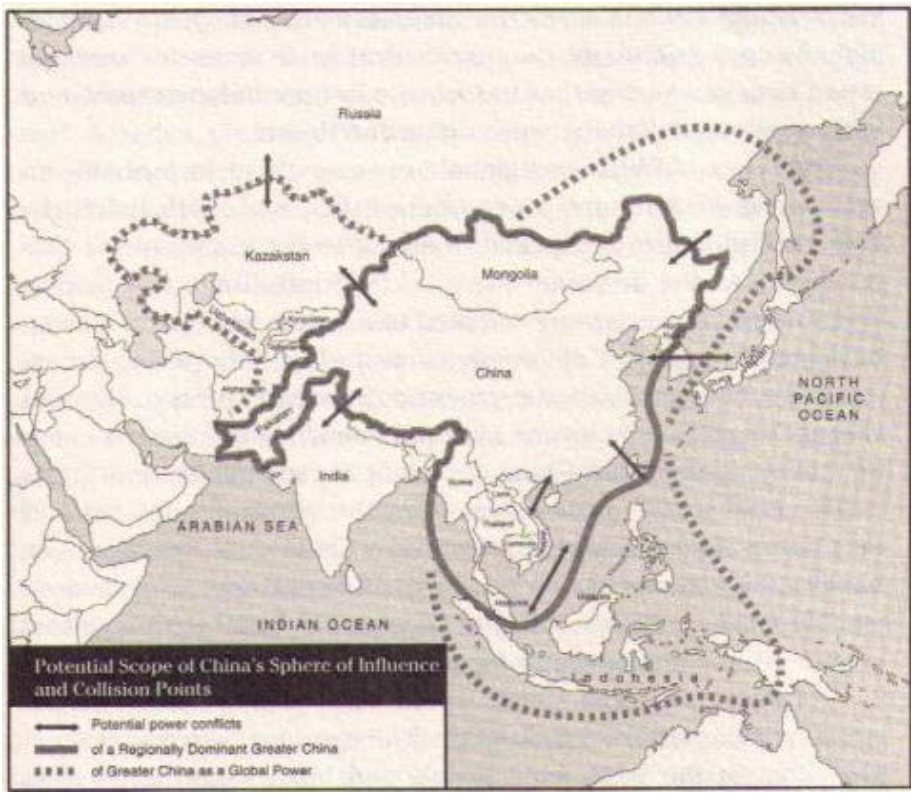


Figure 26. Potential Scope of China's Sphere of Influence and Collision Points
Source: Zbigniew Brzezinski, *The Grand Chessboard: American Primacy and its Geostrategic Imperatives* (New York: Basic Books, 1997), 167.

Brzezinski made a very strong argument for this thesis, using original maps as only a geopolitical scholar could. His cartography laid out very clearly the areas where American and Chinese interests overlapped (see figure 26). He posits that despite the desire by some in the Chinese military to develop an overwhelming and global power projection capability, the Chinese political leadership understands the danger of triggering a regional arms race against Japan, or worse, a coalition of several nations allied against China in a containment fashion.[46]

[46]Brzezinski, 168-169.

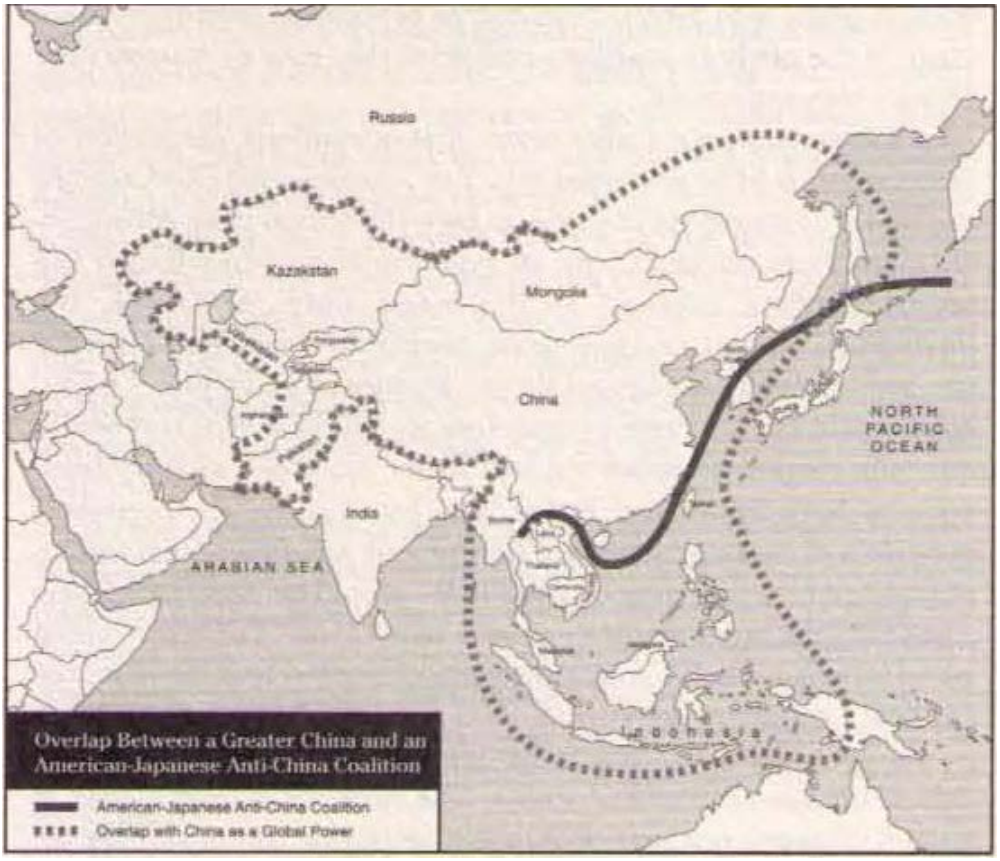


Figure 27. The Overlap between Greater China and America's Anti-Chinese Coalition *Source*: Zbigniew Brzezinski, *The Grand Chessboard: American Primacy and its Geostrategic Imperatives* (New York: Basic Books, 1997), 184.

Brzezinski saw China as having two goals. The first was to prevent the regional domination by an external global hegemon, namely the US. The second goal was to prevent conflicts with its neighbors. Without getting into historical legacies, Brzezinski identified the main points of traditional Chinese regional order. China has always desired to dominate its traditional sphere of influence, and sees the US trying to "contain" China with a curtain of what China considers to be a series of US dominated client states. Currently, the dark line in figure 27 shows *de facto* line of US "containment" of China. With US ground forces physically present in South Korea, Okinawa and other parts of

Japan, with the Seventh Fleet regularly patrolling the East China Sea, China's freedom of movement in what it considers to be its traditional realm is severely constricted.

The second goal was not only practical, in trying to develop a counter-coalition to what China sees as a US-led coalition of Pacific states, but was also in line with Chinese historical legacy. Apart from specific punitive expeditions, China had never attempted to physically conquer any of its current neighbors in the last millennium. This is an important fact, usually ignored or misinterpreted by scholars unable to distinguish between a Chinese Dynasty and a non-Chinese Dynasty, such as the Yuan or the Qing. Brzezinski's realist interpretation of China's geopolitics combining its history and geography provided the first detailed academic analysis of East Asia using the principles of geopolitics.

Jared Diamond, a professor of geography from UCLA, published *Guns, Germs, and Steel*, in 1997, and *Collapse* in 2005, both of which remained on the *New York Times* best seller list for a good part of a decade. His prolific scholarship follows in the tradition of Ratzel and Kjellén, as he originally began his career as a physiologist, move to evolutionary biology, and finally settled on biogeography. He used the same source disciplines as the early German geopolitics scholars, to make geopolitics accessible to the informed public, while winning a Pulitzer Prize along the way. Probably cognizant of the connotations of the term geopolitics, he has carefully avoided the use of the word, or to even discuss any of the previous scholars or concepts from geopolitics. Diamond has used the latest discoveries of science, and essentially updated Haushofer's theory of the organic state, without ever using that term, while presenting the idea as a new theory to the masses. His masterful fusion of ecology, anthropology, evolutionary genetics, and

even linguistics to explain history, definitely created an updated theory on explaining the success of Eurasian civilizations over those of Africa, the Americas and Asia. His reasoning for Eurasian success directly synthesized the Heartland thesis, Rimland thesis, as well as Brzezinski's theory. He also indirectly refuted Haushofer's pan-region theory. All of this is based on a simple study of geography and topography, combined with climatology, and zoology of the continents.

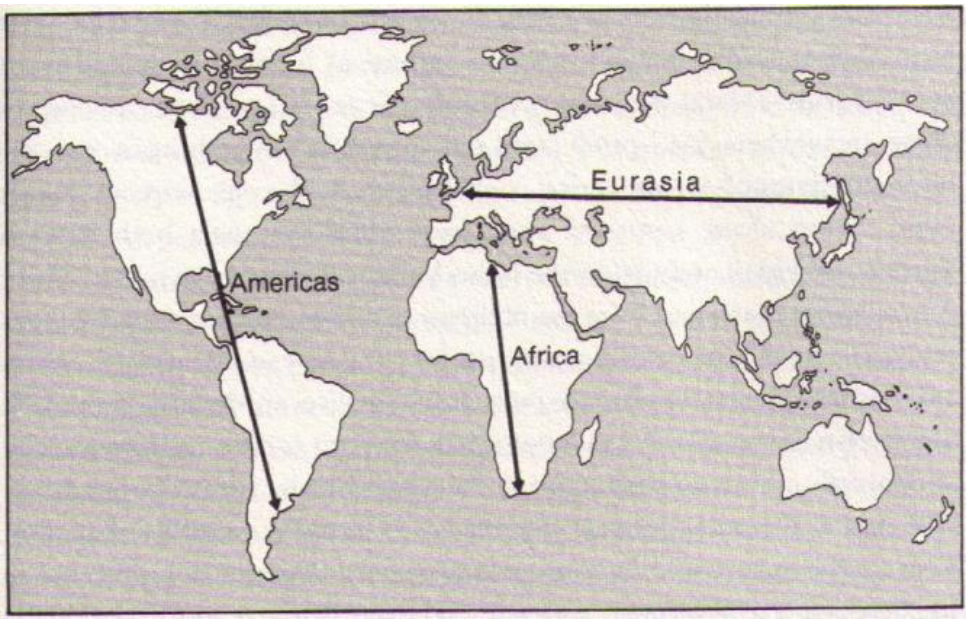


Figure 28. The Directional Differences in Continental Axes
Source: Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Society* (New York: W. W. Norton and Company, 1997), 177.

Simply put, Jared Diamond credited the success of Eurasia compared to Africa and the Americas to its East-West axis. Earth's rotational tilt results in areas along the same latitude of the earth to have the same type of climate throughout the year, as well as the same length of day, and same types of agricultural produce. This also results in

humans and animals alike to be adapted to that same climate. The second order effect of this uniform climatology is that people, animals, and plants, can travel rapidly along the same band of climate in an East-West axis.

A great example is the Silk Road trade, which was East-West in orientation. Civilizations existed along the entire band of the Silk Road, spurring the rise of commerce and exchange of ideas. In contrast, in the Americas, the Incans, though separated by a relative small distance from the Mayans, had no knowledge of them, as the two civilizations existed within completely different climate and geographic settings, because of their North-South orientation. Incans were a high altitude mountain civilization, while the Mayans were a coastal jungle civilization. Further north, another completely alien civilization of the North American plains tribes existed, all living in parallel and in ignorance of each other, driven by alien climates and topography keeping them apart. This explains the dynamic trade, and spread of agriculture along the East-West axis of Eurasia.[47] This is in a prependicular opposition to Haushofer's Pan-Sub-regions, which are North-South in orientation.

The preponderance of agricultural crop, as well as domestic animals, and the earliest rise of civilizations all occurred along this East-West axis of Eurasia, if you count Egypt as being on the southwestern edge of Eurasia. Part of this was pure luck of the evolutionary draw. Table 1, shows how the Eurasian continent just happened to have all but one breed of animal that were eventually domesticated to assist in human civilization. This obviously does not include dogs and cats, which generally cannot be used to assist in

[47]Jared Diamond, *Guns, Germs, and Steel: the Fates of Human Societies* (New York: W. W. Norton and Company, 1997), 176-191.

agriculture, or transportation, or as food source. The immediate conclusion of this analysis is that Eurasia, has what human societies need to prosper. This analysis refutes the North-South axis that Haushofer used to build his Pan-Sub-regions. The Eurasian sub-regions described by Brzezinski is more East-West oriented than North-South.[48] His works, although he does not state so specifically, supports what Mackinder and Spykman, as well as Brzezinski had advocated for decades, that the Eurasian continent is the most critical terrain for human civilization.

Table 1. Total Mammal Candidates for Domestication per Continent

TABLE 9.2 Mammalian Candidates for Domestication

	Continent			
	Eurasia	Sub-Saharan Africa	The Americas	Australia
Candidates	72	51	24	1
Domesticated species	13	0	1	0
Percentage of candidates domesticated	18%	0%	4%	0%

A "candidate" is defined as a species of terrestrial, herbivorous or omnivorous, wild mammal weighing on the average over 100 pounds.

Source: Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Society* (New York: W. W. Norton and Company, 1997), 162.

Jared Diamond clearly illustrated the roles of such seemingly disparate areas such as climatology and agriculture to be crucial to development of human societies and nations. Although Diamond never claimed to be a geopolitics scholar, his findings have

[48]Diamond, *Guns, Germs, and Steel*, 176-191.

great potential in furthering the study of geopolitics, especially in the light of current scientific discovery that humans have been affecting the climate of the earth as a whole in the last two hundred years due to unmitigated industrial pollution of the planet.

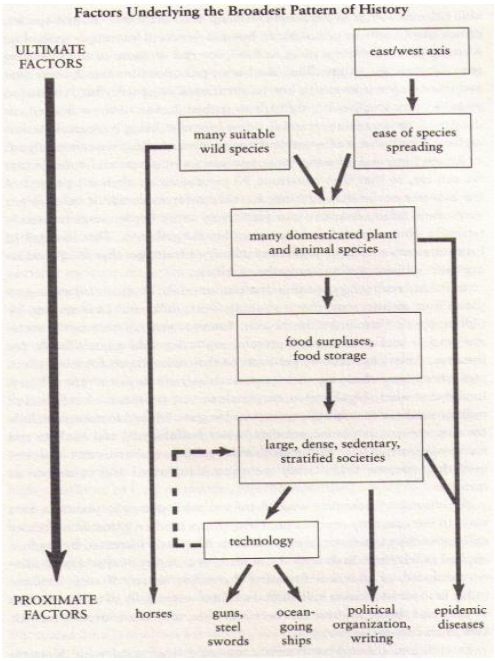
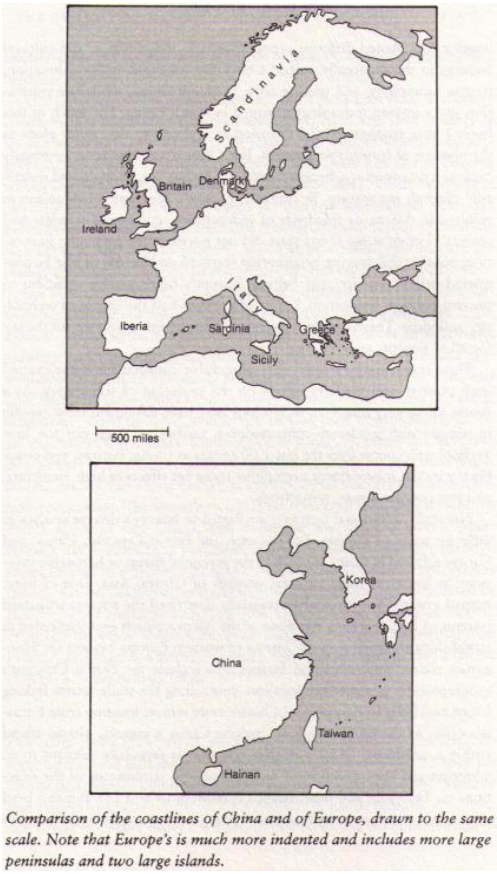


Figure 29. Diamond's Theory of Environmental Determinism
Source: Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Society* (New York: W. W. Norton and Company, 1997), 87.

His second work, *Collapse*, described several cases of actual civilization collapse caused by human mismanagement of resources and changing weather patterns. In the case of Mesoamerica, this resulted in the collapse of an advanced civilization of the Mayas which allowed an easy conquest of the entire continent by the Spaniards in the

16th century.[49] He explained the disappearance of the European civilization in Greenland as the result of their inability to adapt to a changing climate pattern.[50] The take away for geopolitics for the 21st century, is that resource management and weather patterns are just as canalizing as geography itself. Diamond devoted an entire chapter in each of his works for a topic that was never addressed by Mackinder.



Comparison of the coastlines of China and of Europe, drawn to the same scale. Note that Europe's is much more indented and includes more large peninsulas and two large islands.

Figure 30. Comparison of Coastlines of Europe and China
Source: Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Society* (New York: W. W. Norton and Company, 1997), 415.

[49]Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Penguin Books, 2005), 157-178.

[50]Ibid., 248-276.

Diamond's contribution to this research, in addition to his ecological analysis, was his interpretation of Chinese history. Without once using the word geopolitics, Diamond used the geographic characteristic of China, as compared to Europe to explain how Europe came to dominate China in terms of scientific and technological innovation by the 19th century (see figure 30). Diamond identifies the lack of significant geographic barrier within the Heartland of China to have allowed the various ethnic and linguistic groups within China to unite under one government by 221 BC. Europe is only just now beginning to unite under the European Union, with many unresolved issues.

This early unification of China, which resulted in an early social stabilization, and many scientific advances, actually disadvantaged China in the long run. The very fact that China was unified with a strongly centralized government made it possible for any single misled despot to prevent scientific or technological innovation, as well as stop commercial explorations for unspecified reasons. He contrasts this ability with the inability of any given European monarch to stop any scientific advances in Europe, simply due to a lack of unified government. Divided into over 1,000 states and microstates until 1500, Europe was a scene of violent struggle and competition among these states, resulting in the advances giving Europe the level of scientific accomplishment unseen anywhere else.

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Figure 31. Voyages of Zheng He, 1405-1433
Source: Professor Harold Marcuse, "Opium Wars in China, Imperialism in Japan," (Lectures 11 and 12, 9 and 11 May 2006), http://www.history.ucsb.edu/faculty/marcuse/classes/2c/2c06/lectures/06L11ChinaJapan.htm (accessed 28 October 2011).

Until the 1450s, according to Diamond, China enjoyed what seemed to be an unsurpassable advantage in all forms of science and technology over the West. Its "treasure fleet," led by Zheng He, a Turkish Muslim Eunuch in service of the Emperor, had reached the coast of Africa and established tributary relations with many of the kingdoms around the Indian Ocean before the fleets of Henry the Navigator of Portugal, reached the Cape Verdes islands off West Africa. It was Emperor Yongle of Ming who stopped the voyages after sponsoring them for seven expeditions, citing the high expense of the voyages as not being beneficial. With the voyages terminated and the ships destroyed, China focused on domestic issues, while Europe went on to discover the Americas in 1492, reach India by 1499, and arrive in China by sea by 1513. By explaining Europe's surpassing of China using geographical factors, Diamond set the

stage for further analysis of China's geopolitics by other scholars. His second work, *The Collapse,* addresses the population and economic growth of China, and the concurrent problems of pollution and ecological degradation.

Dr. G. William Skinner (1925-2008) was an American anthropologist and a China scholar. Having learned Chinese while in the US Navy, Skinner not only put together the first analytically rigorous work on Chinese geography, but by collaborating with likeminded scholars from China, shaped the future of both American and Chinese geography scholars. Skinner published *The City in Late Imperial China,* in 1977, using what he called the spatial approach to history. By analyzing all available historical data on commerce, trade, and taxation, and creating extremely detailed map overlays, he was able to show authoritatively, how late in the Qing Dynasty, China essentially had nine separate micro economies within its national border, each operating around a core, supported by a periphery, connected by a network of roads and canals.

Figure 32 shows these nine regions which were eventually delineated as the nine physiographical macroregions of China. As people depended on river navigation for commerce, the drainage basins and the road systems worked to isolate nine separate regions of China, according to Skinner's analysis. He explained his methodology, as having started with river drainages basins first, and then identifying further impediment to trade and commerce, mostly in the form of geographiocal obstacles. These obstacles were confirmed by trade and taxation receipts, which shows a markedly reduced amount of commercial traffic across significant natural barriers. Combining all of the analyses, figure 32 is the broad generalization of his life's work. He referred to his works as "regional analysis," never using the term geopolitics.

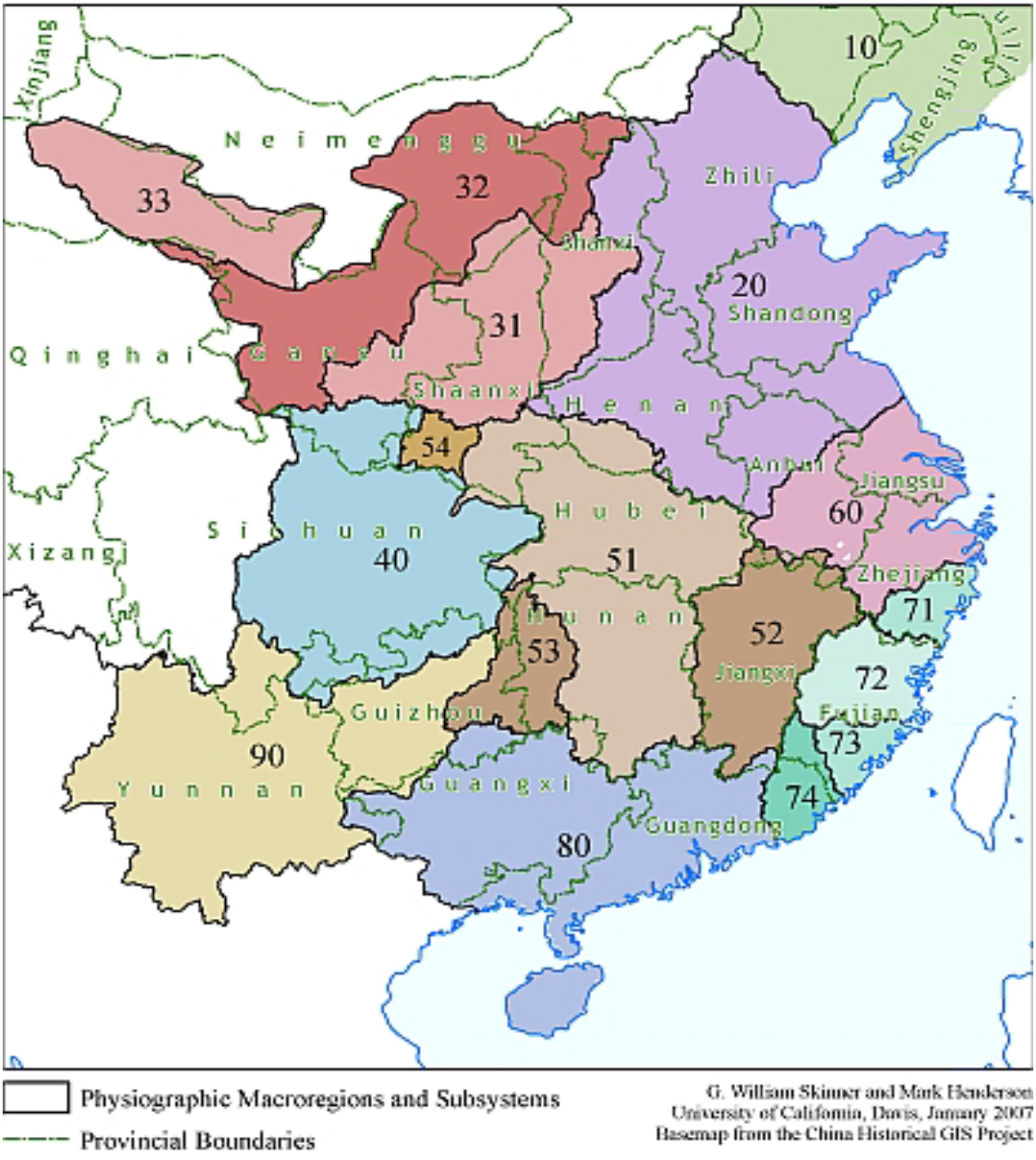

Figure 32. Physiographic Macroregions Relative to the Provinces of China, 1820
Source: "PhysiographicMacroregions" (c) G.William Skinner, Mark Henderson, and Zumou Yue (Davis University of California, Regional Systems Analysis Project, January 2007), http://www.fas.harvard.edu/~chgis/data/chgis/downloads/v4/datasets/v4_PhysiogMacro_pgn.html (accessed 31 October 2011).

Figure 33 shows the earth with its major river drainage basins. One can see immediately how these macro-basins align with cultural zones. This is a result of the fact that the boundaries between drainages tend to be continental divides, composed of significant mountain ranges not easily penetrated.

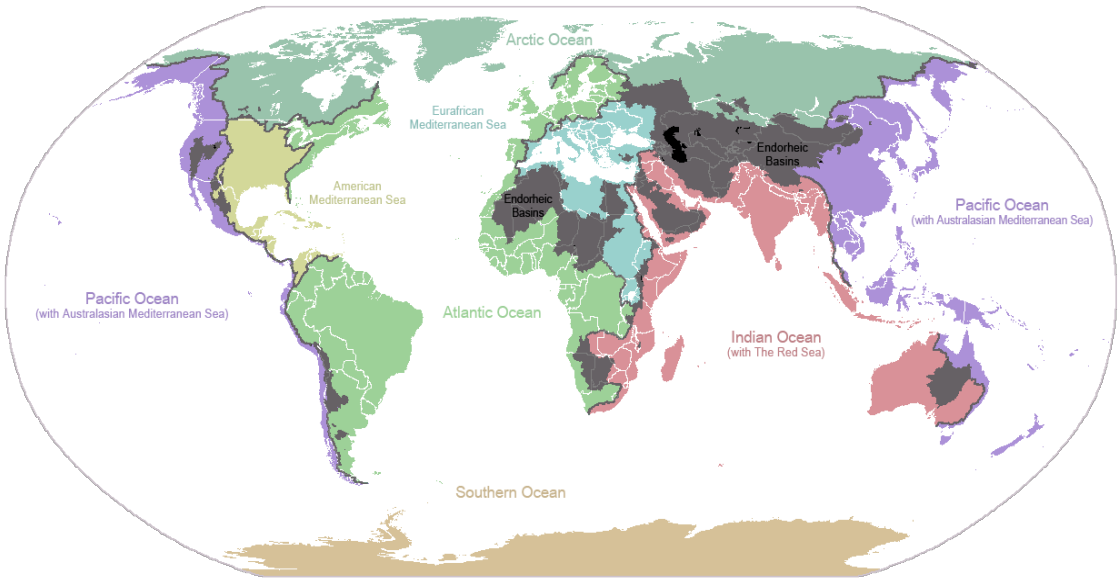

Figure 33. The Major River Drainage Basins of the World
Source: Wikia.com, "Drainage Basin," http://water.wikia.com/wiki/Drainage_basin, uploaded as http://upload.wikimedia.org/wikipedia/commons/b/b1/Ocean_drainage.png (accesses 29 October 2011).

The immediate effect of river drainages is that they create subcultures, if not entirely different civilizations, based on the size of the river drainage system, and the size of the mountain range or continental divide separating the river drainage systems. Separated by large enough obstacles, different races may coexist with little awareness about each other. Such was the case between China and India, living on opposite sides of the Tibetan plateau.

Figure 34. River Drainage Basins of the United States of America
Source: Earth Resource s Observation Systems (EROS), http://proceedings.esri.com/library/userconf/proc97/proc97/to350/pap311/p311.htm, http://proceedings.esri.com/library/userconf/proc97/proc97/to350/pap311/p3114.gif (accessed 15 November 2011).

Figure 34 shows the drainage systems within the continental US. It is very clear that the hydrological drainage divisions closely correspond to the ecological, cultural, and economic divisions within the US. The Rocky Mountains provides a good example. . This difficult terrain splits the western US from the East. All rivers on the west side flow towards the Pacific Ocean, while east of the Rockies, they flow out to the Gulf of Mexico, either within the Missouri–Mississippi Basin, or in the Rio Grande Basin. Each basin contains a unque culture, as well as vernacular language and cuisine.

Dr. Skinner began with river basins for his analysis, adding commercial, transportation, and governmental tax collection data to identify the nine "macro-regions," of China. He further divided them into sub-regions, with their internal cores and peripheries identified. In figure 35, the lighter areas exhibit the characteristics of a regional core, while the darker areas exhibit characteristics of a periphery.

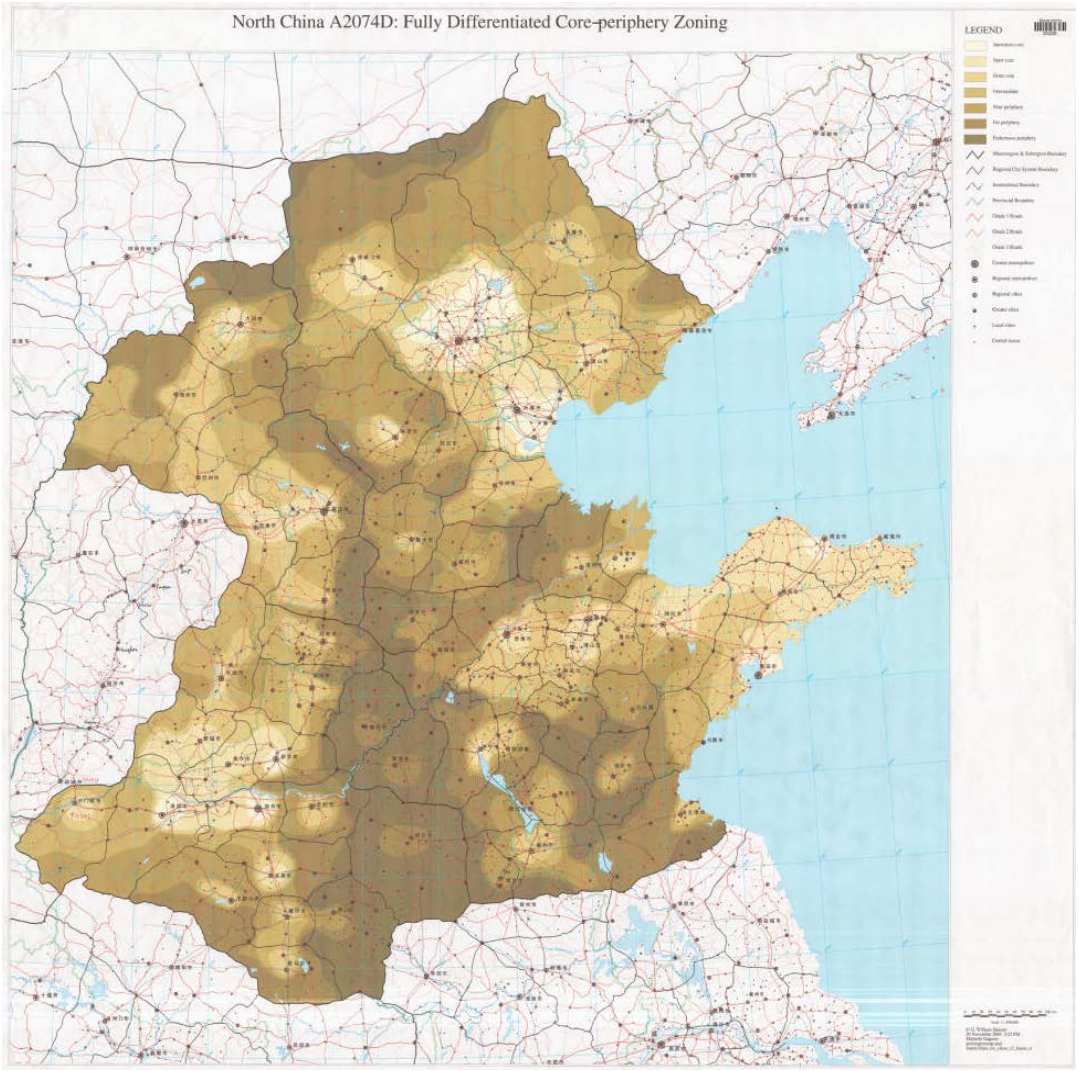

Figure 35. The Core-periphery analysis of the Zhongyuan Sub-region
Source: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 31 October 2011).

The Chinese government and scholars who learned of Skinner's works were very impressed. They were impressed enough to invite him to China for further study, and cooperation. This resulting cooperation resulted in the eventual establishment of the China Association for Geographic Information System [中国地理信息产业协会].[51] Chinese scholars scanned paper maps initially to create their digital database. Nevertheless, with improvement in technology, China created its own GIS with all digital overlays by the mid 1990s.

Dr. Skinner's life long dedication to the study of Chinese and Japanese geography has laid the foundation for future scholars of regional geopolitics. This thesis will use the nine physiographic macroregions of China developed by Dr. G. William Skinner as the core of the analysis. Based on river drainages, proofed using commercial activities and transportation nodes, as well as sex ratios, and demographic proportions, Dr. Skinner's analysis remains the most rigorous application of data for identifying sub-regions and their cores within China. For sub-regions in East Asia outside of central China, a similar system of categorizing was applied, starting with river drainage identification.

Conclusion

In summing up, the first half of the 20th century, you can almost see a parallel development of similar but distinct branches of geopolitics, the German School and that of the Anglo-American School. But following the defeat of Germany, and the demise of the German School, its organic theory is only now being revived, partly due to new

[51]http://www.cagis.org.cn/ (accessed 31 October 2011). This is the official website of the Chian Association for Geographic Information Service.

discoveries by such scholars as Jared Diamond. Others, doing seemingly disconnected studies are rediscovering and reformatting old ideas, such as Brzezinski's five zones of Eurasia, which is a much more useful update of Haushofer's pan-regions. Brzezinski also revives the idea of the Heartland, while simply calling it Eurasia. By combining all of the above factors, we can analyze East Asia using a geopolitical framework. Regardless of which theorist one believes in, all of them are united in their empirical discovery and study of continuous influence and effect of geography and climate on humans. A graphic summary of chapter two on a powerpoint slide is attached as appendix 3.

The next two chapters analyze the sub-region of East Asia, with chapter 3 focusing on geopolitics with an emphasis on geography and history, and chapter 4 focusing on the impact of climate on the sub-region. Chapter 5 will bring them together into a single list of megatrends for the entire sub-region, and indicate trends affecting sub-regions outside East Asia and perhaps the entire world.

CHAPTER 3

THE GEOPOLITICAL ENVIRONMENT OF EAST ASIA

> In the modern age, China remains a civilization pretending to be a nation state.
> — Lucian Pye, "Social Science Theories in Search of Chinese Realities"

Defining East Asia

East Asia is the strategic area of interest for this study. A strategic area of interest is a geographical area from which geopolitical analysis is required to execute successful campaigns and to plan for future campaigns. East Asia is composed of the industrialized states of China, Korea, Japan, Taiwan, and the peripheral state of Mongolia.

Figure 36, is the categorization from the United Nations geographical designation of the world.[52] This research discovered many variants of categorizing Asia, but decided upon the UN geographical sub-regions designation, based on universal acceptance and convenience. The UN website clearly states that the categorization is for statistical convenience only and does not imply or endorse any political or cultural assumptions. One change that was necessary concerned Siberia. According to the UN categorization, all of Russia is categorized as "Eastern Europe." This is unacceptable for this research dealing with East Asia. Therefore Russia was bisected into European Russia, and Siberia. For the purpose of this study, several areas outside of East Asia are also included in the research, due to their significance to East Asia. Their capability to influence East Asia through specific characteristics warranted their including in this research. A semantic

[52]United Nations, "Standard Country or Area Codes for Statistical Use," http://unstats.un.org/unsd/methods/m49/m49.htm (accesses 25 October 2011).

change concerns “East” Asia as opposed to “Eastern” Asia. The decision to use East Asia was based on conventional usage in the media and academia.

Figure 36. The Sub-region of East Asia within Eurasian Continent
Source: United Nations, “Composition of macro geographical (continental) sub-regions, geographical sub--regions, and selected economic and other groupings.” http://unstats.un.org/unsd/methods/m49/m49regin.htm, (accessed 18 September 2011), depicted on http://commons.wikimedia.org/wiki/File:Location-Asia-UNsubsub-regions_orthographic_projection.png, with author’s own labeling of areas. The term “East” Asia is used for convenience in this paper.

To divide the strategic area of interest into manageable sub-regions, a combination of the following methods were used. A geological overlay and a river basin analysis provided the initial draft of divisions. For the core areas of China, G. William Skinner's categorization was used, with his latest updates from the year 2000. For areas outside of China's core, a historical aggregation of dynasties were used. This aggregation of wars and dynasties proved very useful in that it confirmed Dr. Skinner's theory of the macro- regions.

Define the Sub-regions of East Asia

The map in figure 37 is a standard geological assessment of China. This understanding is insufficient without the application of the river drainage basins, which bring out the effect of elevation and ecology automatically.

Figure 37. Geological Macro Areas of East Asia
Source: Wikipedia, "China Historic Macro Areas," http://en.wikipedia.org/wiki/File:China-Historic_macro_areas.svg (accessed 27 October 2011).

This map alone can identify six out of the nine core sub-regions of China. It also serves to divide the Xinjiang sub-region in two, a steppe portion, and a desert portion. If the river basin analysis shows the same division, then Xinjiang will have to be divided into two sub-regions.

Figure 38 shows all of the main river drainage basins in East Asia. The small rivers along the Fujian sub-region, small rivers in Siberia between the large basins, as well as the small rivers in Korea and Japan are not depicted. The rivers of Japan and Korea are shown later. All major river basins that touch East Asia are also shown. Inland or endorheic Basins are marked in Black. All other basins, emptying out into oceans are marked in Red.

Figure 38. Major River Drainage Basins of East Asia

Source: Created by author using Microsoft PowerPoint, built on top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011).

Several factors are obvious from this analysis only. There are 10 river drainage systems covering the nations of Vietnam, Laos, Cambodia, Thailand, Burma, Bangladesh, India, Pakistan, Afghanistan, Tajikistan, Kyrgyzstan, Turkmenistan, Kazakhstan, and Russia that have their origin within the borders of China. This effectively allows the Chinese to influence the nations within these river basins to one degree or another. China has already begun constructing dams on rivers that drain out to India and states of Southeast Asia. Large portions of both Pakistan and Afghanistan lie within the basins of rivers that originate in China. These actions have geopolitical impacts across the sub-region.

The next step was applying history on the river basins. Since history is the story of human civilization living within the geographic confines of the land and water, one can assess the validity of the river basins as geopolitical sub-regions using history. The Qaidam Basin, on the map above, is a good example. Located centrally on the map, the Qaidam Basin is a landlocked drainage basin nearly matching the provincial boundaries of the modern Qinghai province. Its geography is barren, with very little natural resources. Its history shows domination by Tibet, with some Turkish, Uyghur Muslim, and Mongol occupation. Based on the dearth of historical activity and sequential occupation by different ethnic groups, the Qaidam Basin in the Qinghai province was grouped within the sub-region of Tibet. Similar analyses applied to the river basins resulted in the final formulation of the sub-regions for this study.

The weakness of many existing historical analyses of China is that they treat China as a single state. This results in gross misanalysis of the impact of history. This clumping together of China as single state results in the interpretation that China goes

through a single cycle of division and unification repeatedly. Periods such as the Warring States Period and the North and South Dynasties are conveniently categorized as periods of division, while the Yuan and Qing dynasties are considered just as unifying as the Qin and the Northern Song. Such conventional analysis results in a very useable, easy to understand product, as figure 39, created by the author, using open source information shows. This simple chart is user-friendly to a scholer trained in Western European history to digest, without creating issues and questions.

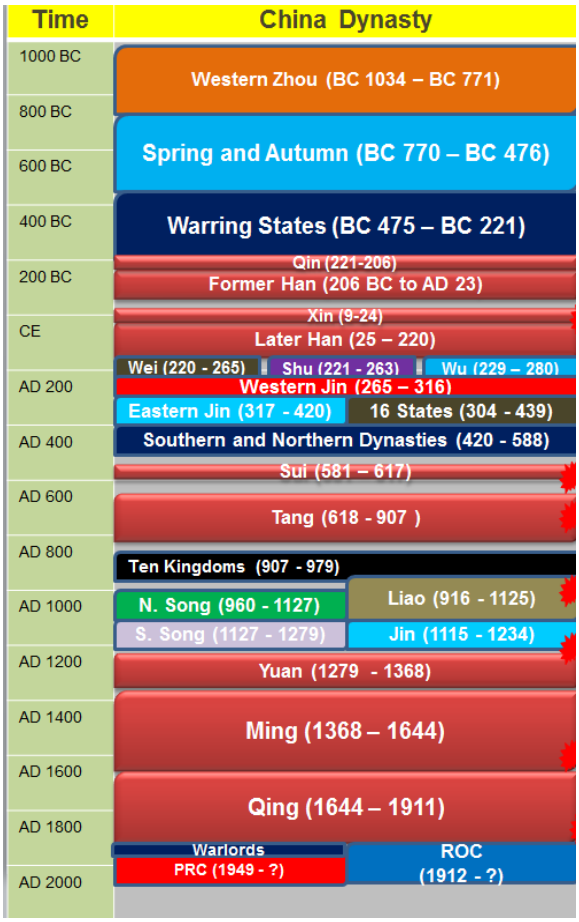

Figure 39. The Conventionally Accepted Dynastic History of China
Source: Author's own analysis using open source information.

On this chart, dark red areas indicate periods of Chinese unity. This is how the information is presented in most history books and political analysis. The trend that appears obvious here is that in the 800 years since 1279, China has been united as a single entity, with the exception of the early part of the 20th century, which is normally explained as a reaction due to Western and Japanese aggression.

The chart in figure 40 shows the same timeline, analyzed one level lower, using the sub-regions identified in this study. An effort was made to color code the dynasties based on the sub-region of origin of its progenitor. By stepping down one level from "national" to "sub-regional," many previously unnoticed phenomena are identified. The following spreadsheet reduces all of "Chinese" history on a timeline, divided by sub-regions, and color coded to show sub-regional continuity not only through actions, but also by their very nomenclature.[53]

The dark green dynasties on the chart show nomadic dynasties, indicating outside conquest. Dark red dynasties are the dynasties traditionally credited with uniting China, as depicted on the previous chart. This sub-regional level analysis shows how the concept of unification is an interesting idea to define. Depending on the definition used, the only dynasty to ever unite all of what is today considered China, was the Qing Dynasty, which was not even Chinese. Using a smaller definition of China, only using the nine core sub-regions of China, only four dynasties ever achieved true unity among the nine sub-regions, for a total of 941 years.

[53]Author's analysis. A full size copy of the above plus the actual years for each dynasty is attached as Appendix A.

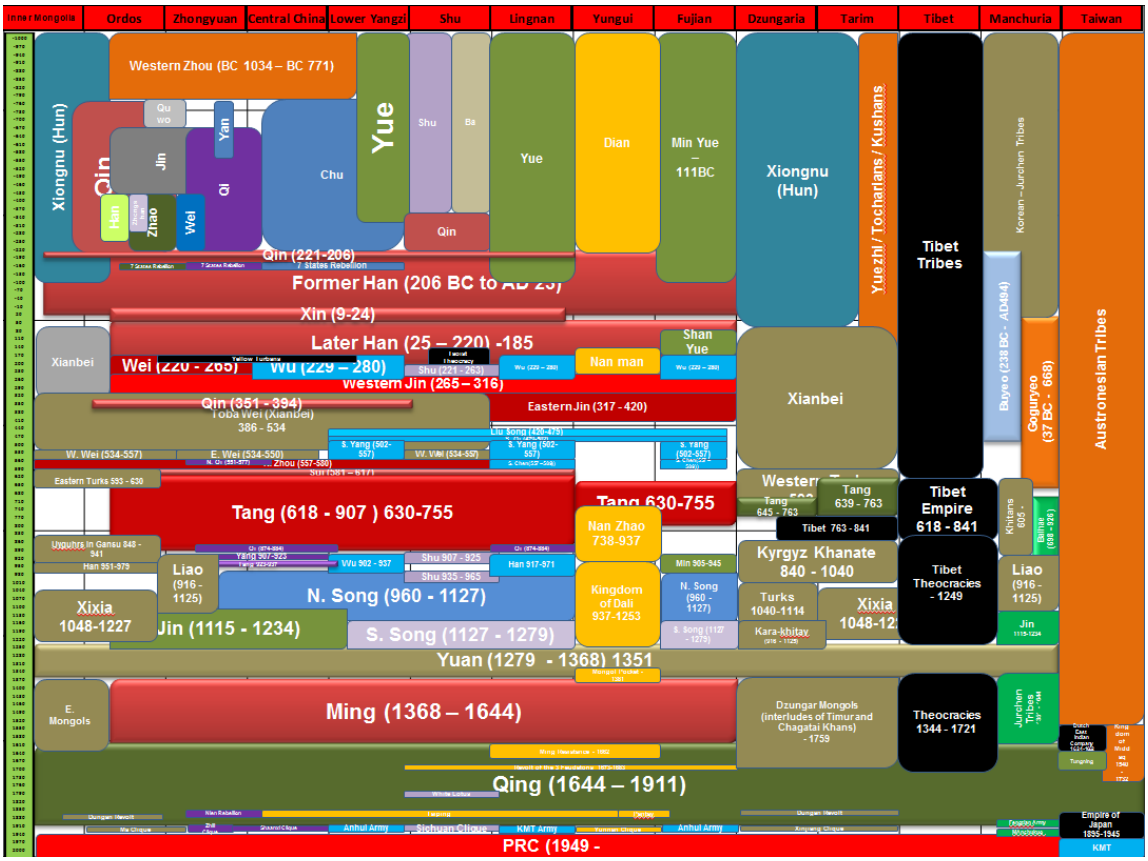

Figure 40. A Dynastic History of China overlayed on 14 of its Component Sub-regions
Source: Author's analysis using Microsoft Excel and PowerPoint. Full size chart attached as Appendix B.

Another significant trend is that several sub-regions break away and establish independent governments at the first sign of weakness in the central regime. Some of these sub-regions tend to use the same ancient sub-regional dynasty names repeatedly. Examples are Qin for Ordos, Qi for Shandong, Yan in the Beijing area, Wu for lower and middle Yangzi, Wei for Zhongyuan, Shu for Sichuan, and Yue for Fujian and Lingnan. The latest manifestation of this sub-regionalism was a century during the Warlord period of China. The map in figure 47 shows the initial division of China, when the Empire broke down and the Republic lost control. This division is in line with the historical sub--

regional trend of China as a whole and it clearly supports the sub-regional divisions used in this research.

Figure 41. Division of China among the Warlords in 1925.
Source: US Military Academy (West Point), http://www.dean.usma.edu/history/web03/atlases/chinese%20civil%20war/chinese%20civil%20war%20index.htm (accessed 30 October 2011).

Outside of China, Japan was included as a core sub-region based on its outsized significance in the last 150 years within the sub-region. Trans-Baikal, despite its location outside of East Asia as defined by the UN, was included due to its significant geopolitical potential for the future based on findings of the research. The above aggregations of wars, invasions, and dynasties were combined with Dr. Skinner's analysis of economy and transportation. Overlaid on top of the river drainage basins, figure 42 shows the outcome.

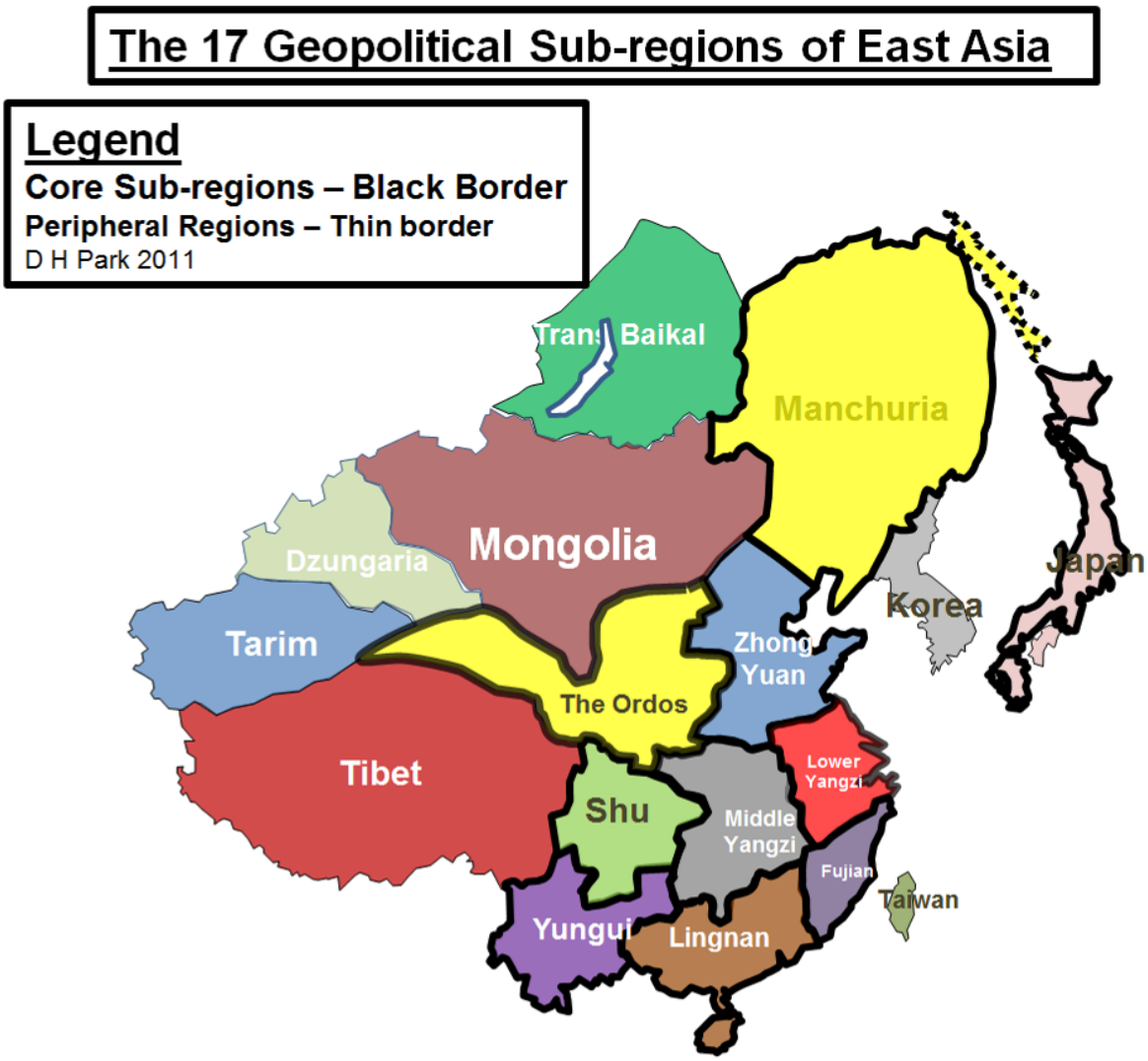

Figure 42. The 17 Geopolitical Sub-regions of East Asia
Source: Created by author using Microsoft PowerPoint, built on top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Map removed for clarity.

17 Sub-regions Identified for This Study

10 Core Sub-regions of East Asia

1. Zhongyuan: The central plains of China plus Beijing and its immediate periphery.

2. The Ordos: The Ordos Desert and the Gansu corridor plus the Xian valley.

3. Middle Yangzi: The farming sub-region of China.
4. Lower Yangzi: The richest and the most cosmopolitan sub-region of China.
5. Shu: Surrounded by mountains, the traditional refuge for underdogs.
6. Fujian: The traditionally seaward looking province.
7. Yungui: A heavily minority sub-region in a sub-tropic land.
8. Lingnan: A rich manufacturing and export center of China.
9. Manchuria: Heavy industry production center of China.
10. Japan: The island skirt blocking in China from the Pacific Ocean.

3 Peripheral Sub-regions of East Asia

1. Mongolia: The Great Khan's Playground.
2. Tarim: The Old Silk Road.
3. Tibet: The Source of all Rivers.

5 Geographic Pivots of East Asia (*The Ordos is a repeat*)

1. Korea: The traditional high speed avenue of approach to the Asian Continent
2. Taiwan: The Oceanic Guard post of China.
3. The Ordos: The Gateway to Civilization (*It is a core sub-region as well*).
4. Dzungaria: The Gateway to Europe.
5. Trans-Baikal: The key to the Pacific from the continental Heartland.

Avenues of Approach

Movement corridors are natural or man-made road networks, open terrain, natural pathway, or even sea lanes that allow a large group or a significant volume or quality of migrating humans, maneuvering military forces, commercial caravans, seagoing

merchant fleets, and or transports of significant quantities of resources to move rapidly from one sub-region to another. The capability to host larger sizes and more frequent iteraitons of these transports make the movement corridor an avenue of approach. A combination of multiple imporatant movement corridors within a small area can turn wide area containing all of the movement corridors into a single avenue of approach. If an avenue of approach becomes so prominent that its severance or interdiction causes an immediate system-wide trauma to tan organic state, it can be considere d acritical avenue of approach.

The sea lane connecting East Asia to the Persian Gulf has been a critical aveue of approach for the entire region of East Asia due to the majority of its petroleum flowing through that avenue of approach, making it critical in importance. However, as overland routes are completed, China will prefer a ipeline, the majority of whose length lies within china, to a sea lane that is vulnerable to piracy, foreign interdiction and the ravages of tropical weather.

Figure 43 is a depiction of the regional avenues of approach, which is a grouping of the most trafficable movement routes, as shown by historical volume and iterations. Each of them will be discussed within their sub-regions in the following chapters.

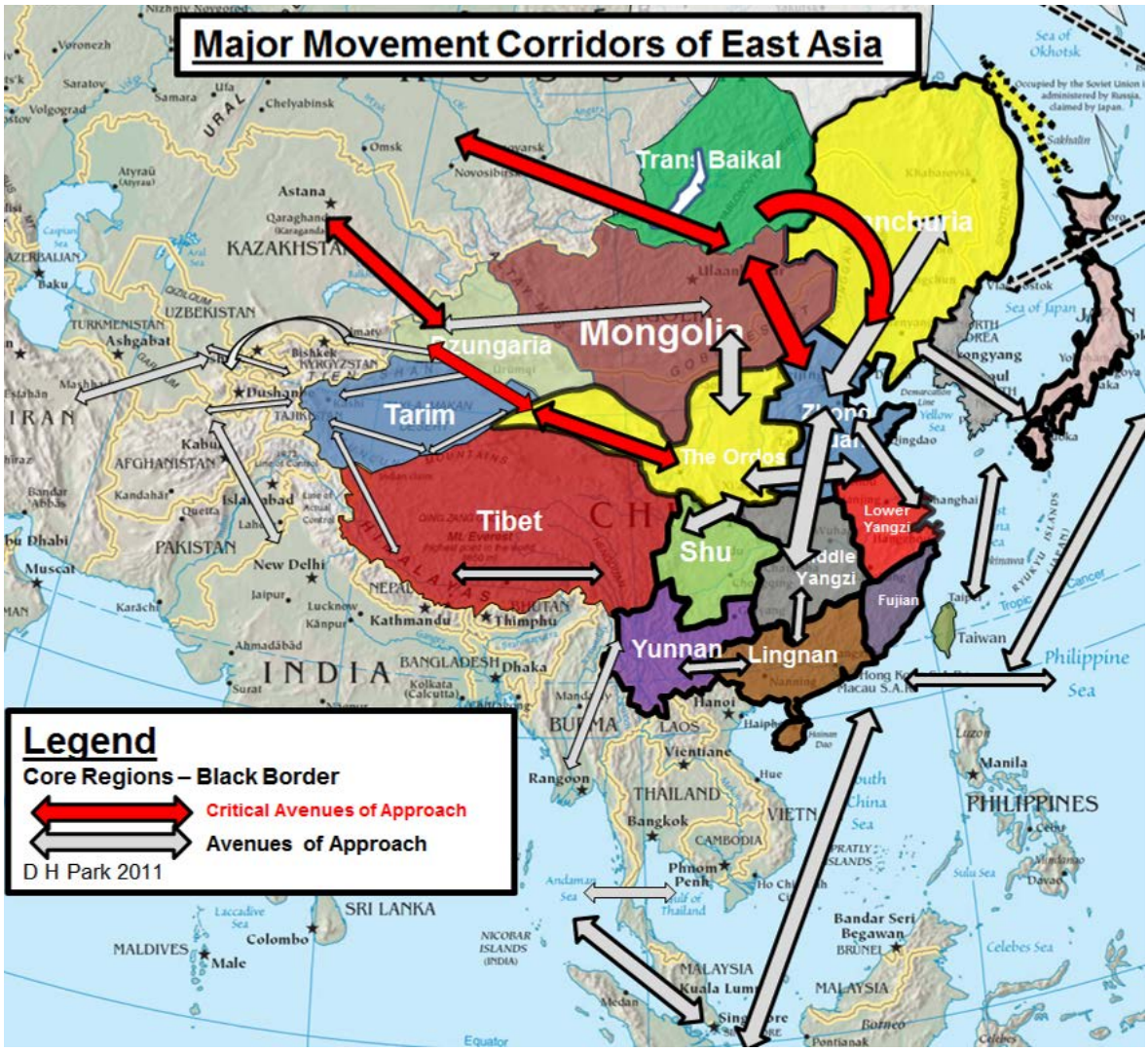

Figure 43. The Major Movement Corridors of East Asia
Source: Created by author using Microsoft PowerPoint, built on top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011).

The Geopolitical Pivots

Geopolitical pivots are decisive terrain in the strategic realm, providing the occupiers of the terrain a decisive advantage in one or more elements of power, relative not just to the neighboring state, but relative to the entire world. The simple ownership of

these pivots provide strategic options for the owning state previously inconceivable. Each pivot will be explained with critical capability, critical requirement, critical vulnerability, and historical data to support its nomination to be a geopolitical pivot.

Korea is a great example of a geopolitical pivot. Despite China's unsuccessful track record of conquering Korea herself, it has deployed troops to Korea since after the Mongol conquest on three major occasions, all because of a rival power landing troops on the pivotal region of Korea. Based on historical precedents, China understood instinctively that any extra-regional power that landed sizeable land forces in Korea would very quickly march into Manchuria. China's success in intercepting and defeating the maritime invader in 1592-1598 prevented a continental invasion by Japan. Its failure to intercept and defeat a Japanese landing force in Korea in 1894 resulted in its defeat to Japan the same year. Despite PRC's many internal problems and the sheer audacity of taking on the world's strongest country, China dispatched a force of 800,000 volunteers to Korea in 1950, based on a geopolitical realization of what a foreign occupation of the Korean peninsula had come to presage. These actions arouind Korea define it as a geopolitical pivot, and explains the outsized influence a pivot exerts on its neighbors due mostly to its geographic location.

Figure 44 illustrates the five geopolitical pivots of East Asia. Red stars identify the sub-regions as geopolitical pivots. They are Korea, Taiwan, Trans-Baikal, Dzungaria, and the Ordos.

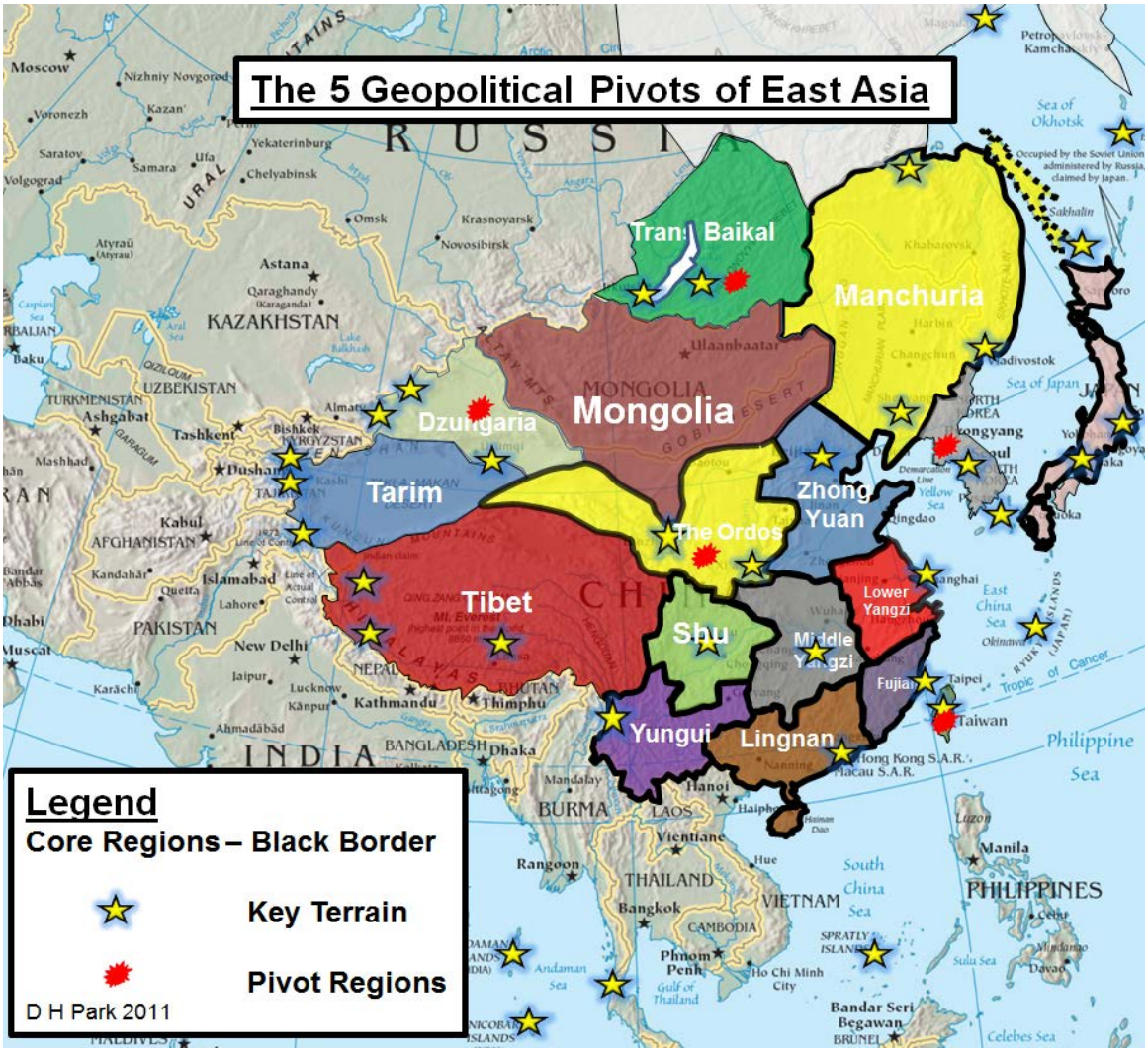

Figure 44. The Five Geopolitical Pivots of East Asia
Source: Created by author using Microsoft PowerPoint, built on top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011).

Understanding the concepts of the Heartland versus periphery, the critical nature of movement corridors and avenues of approach to connect the core areas to one another and to the regional periphery, the importance of natural fortications, the value of natural harbors situated near global sea lanes, and the importance of key terrain / pivots, is the first step in a regional geopolitical analysis. Applying river basins and social systems ,

with linguistic groupings, analysis of local history and culture on top of the geopolitical concepts allows us to identify sub-regions of importance within a greater region.

The next figure is the result of the combination of all of the so far identified factors. Combining the detailed geopolitical terrain analysis of geography and history, the following geopolitical locations are identified and categorized. East Asia is divided into nine core sub-regions. There are five pivots within East Asia with multiple peripheries. Numerous avenues of approach exist. The critical avenues of approach connect East Asia with the rest of the Heartland. However, this figure does not identify trends. It is a geopolitical depiction of existing forces that canalize, turn, spread, or force together humans in a given terrain. Further analysis applying sub-regional characteristics, and the long term effects of climate will help us identify geopolitical trends. As such, the following is an aggregation of existing forces, and a good start point for a research, but not the final product of our research.

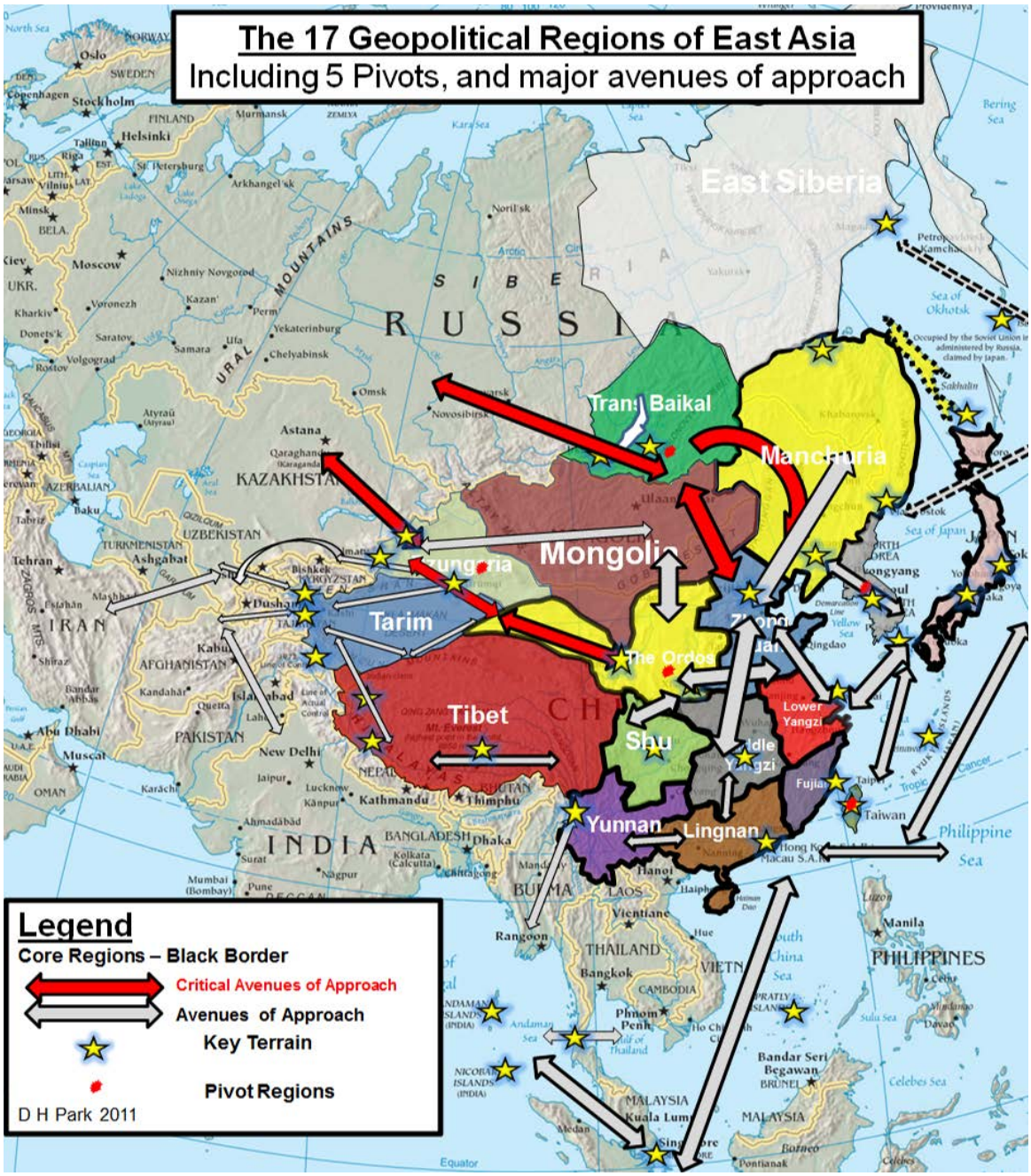

Figure 45. The 17 Geopolitical Sub-regions of East Asia with 5 Pivots and AAs
Source: Created by author using Microsoft PowerPoint, built on top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011).

A Note on the Languages of China

The languages of Korea, Japan, and Mongolia are quite straight forward. Each of the regions have their own unqie language, all belonging to the Altaic family of languages. The people of China, on the other hand, among its 56 ethnic groups, speaks over 1500 language varieties, belonging to 4 lnguage families: Sino-Tibetan, Altaic, Indo-European, and Austro-Asiatic.[54] These language groups share no commonality in grammar or vocabulary. Within the Sino-Tibean family of languages, which is the spoken tongue of the Han people, the majority ethnic group of china, 15 main dialects exist, of which the majority are not mutually intelligible with each other.

Table 2 is the most empirical experimental data collected to date, by a team of Chinese and dutch linguists in 2009. The numbers indicate mutual intelligibility between the main dialect groups. Not included are minor dialects. The bottom right quadrant shows the main dialects of the so called standard Mandarin language of China. The Beijing dialect is considered the closest to the official *Putonghua* dialect of the PRC. One can see that, the mutual intelligibility rating is not that great even among the Mandarin dialects. For reference, the French language has over 70 percent lexical similarity to other romance languages, such as Romanian, Spanish, and Italian.[55] While those languages are considered separate and distinct languages in the envionrment of Europe, in China, the following languages with less lexical similarities between them are called dialects of one language.

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[54]Encyclopedia Brittanica, 15th ed. rev., s.v. “China - the People,” v. 15, 50.

[55]Chaoju Tang, *Mutual Intelligibility of Chinese Dialects: An Experimental Approach* (Utrecht, Netherlands: LOT, 2009), 80.

Table 2. The Mutual Intelligibility of Chinese Dialects

Speaker dialect (down)	Listener dialect(across)															
	Suzhou	Wenzhou	Guangzhou	Xiamen	Fuzhou	Chaozhou	Meixian	Nanchang	Changsha	Taiyuan	Beijing	Jinan	Hankou	Chengdu	Xi'an	Mean
Suzhou	**77**	7	5	18	13	5	7	13	13	20	5	18	15	15	7	16
Wenzhou	5	**93**	5	12	3	2	7	10	2	7	2	10	8	7	2	10
Guangzhou	5	7	**92**	10	20	25	55	22	13	7	3	22	8	17	7	21
Xiamen	13	5	8	**97**	23	28	13	18	13	3	5	15	7	17	8	18
Fuzhou	3	3	2	17	**92**	7	3	8	5	0	0	7	2	0	3	10
Chaozhou	7	0	3	52	13	**98**	3	12	3	7	2	13	10	3	5	15
Meixian	13	2	12	28	17	20	**70**	25	18	10	3	25	15	25	8	19
Nanchang	28	13	20	25	27	17	33	**50**	32	35	18	53	43	37	23	30
Changsha	12	3	8	23	17	3	17	25	**93**	13	13	38	53	28	2	23
Taiyuan	63	35	45	63	57	25	55	68	68	**73**	77	92	92	85	73	65
Beijing	87	62	90	90	93	60	80	78	92	90	**98**	98	97	98	93	87
Jinan	52	27	32	48	48	15	40	60	70	75	77	**97**	83	82	67	58
Hankou	48	32	32	52	53	27	45	53	62	58	67	95	**100**	73	65	57
Chengdu	47	22	40	48	72	27	48	58	62	65	62	98	95	**95**	68	60
Xi'an	53	33	50	58	57	30	57	58	63	68	58	82	78	70	**67**	59
Mean	34	22	30	43	40	26	36	37	41	35	33	51	47	43	33	

Source: Chaoju Tang, *Mutual Intelligibility of Chinese Dialects: An Experimental Approach* (Utrecht, Netherlands: LOT, 2009), 80.

The next table illustrates the mutual intelligibility or lexical similarity among Romance langauges of Europe, as a comparison. These languages are considered independent and foreign from each other, although related. Compare the low mutual intelligibility numbers above, between dialects of the Chinese language, especialyly within the "Mandarin" dialects in the bottom right quadrant, with the relatively higher index among languages commonly accepted as disctinct, among the European Romance languages, depicted in the next table. It is easy to see that differences among the "dialects" of the Chinese are often times greater than the differences between distinct European languages within the Romance family, such as French versus Italian.

Table 3. The Mutual Intelligibility of Romance Languages

	French	*Spanish*	*Catalan*	*Portuguese*	*Rhaeto-Romansh*	*Italian*	*Sardinian*	*Rumanian*
French	—	75	N/A.	75	78	89	80	75
Spanish	75	—	85	89	74	82	76	71
Catalan	N/A.	85	—	N/A.	N/A.	87	N/A.	N/A.
Portuguese	75	89	N/A.	—	N/A.	N/A.	78	N/A.
Rhaeto-Romansh	78	74	N/A.	N/A.	—	82	74	N/A.
Italian	89	82	87	N/A.	82	—	85	77
Sardinian	80	76	N/A.	78	74	85	—	74
Rumanian	75	71	N/A.	N/A.	N/A.	77	74	—

Source: Zdravko Batzarov, *The Romance Languages*, http://www.orbilat.com/General_Survey/Romance_Languages.html (accessed 30 November 2011).

This mutual unintelligibility among the 15 main dialects of Chinese is specifically analyzed per sub-region of China below. What is significant is the insistence by the government of PRC that the up to 53 percent of the PRC can communicate orally in Mandarin,[56] while only 18 percent claimed to speak it at home with family members.[57] This linguist fragmentation of China is something the government of PRC does not advertise. This linguistic fragmentation of China forces its 56 different people to learn the official *Putonghua* dialect, but only 53 percent of the population can attain the minimum level of proficiency required for oral communication.

[56]Howard W. French, "Uniting China to Speak Mandarin, the One Official Language: Easier Said Than Done," *The New York Times*, 10 July, 2005, http://www.nytimes.com/2005/07/10/international/asia/10chinese.html (accessed 20 October 2011).

[57]China Daily, "Grater Numbers speak Mandarin," 26 December 2006, http://www.chinadaily.com.cn/english/doc/2004-12/26/content_403419.htm (accessed 30 October 2011).

The Sub-regional Analysis of East Asia

The intent of this section is to illustrate the sub-regional unqieness of East Asia. As already mentioned, the histories of these sub-regions show more of a centrifugal trend rather than a unifying trend. As observed by Jared Diamond, the geography of China forces each people-group to face each other rather than separate into defensible valleys. This shows the invisible hand of geographical force pushing these people in towards each other despite their independence relative to each other.

The following 17 sub-sections will highlight the unique identities of each region, while illustrating their geographical features that allowed them to retain their sub-regional characteristics. The first map of each section will show the location of each sub-region within East Asia. Dr. Skinner's macro-regional analysis map is attached for the ten core sub-regions of East Asia as a recognition of his work providing the foundation for this analysis. For sub-regions outside of the core area, a google map is presented.

The second set of maps per sub-region depicts the strategic terrain analysis. Impassable terrain is identified as a brown overlay over the google terrain map. Key terrain is numbered, named, and depicted. Avenues of approach are also depicted on the second map as large or thin arrows, depending on how many men and their materiel they can support. The historical significance or justification for these terrain features are explained in the narrative. Within the second map, basic demographic statistics are presented, to show the degree of cultural, linguistic, economic, agricultural, and historical differences among the 17 sub-regions. The gender ratio for children under the age of 4 is also presented. This is a long term indicator of further stress on the Chinese internal governance systems. A difference of greater than 110 boys to 100 girls is a fair indicator

for large groups of frustrated young men causing acts of instability 15-20 years down the line. This study will show that some sub-regions suffer the most from this very Chinese phenomenon, while other do not suffer from this issue at all.

When necessary, climate issues are discussed even though they will be discussed at the regional and global level in chapter 4. Certain sub-regions are already feeling the effects of climate change to such a degree that the discussion of it was unavoidable.

Lastly, the critical capabilities and critical vulnerabilities of the sub-regions are presented. The critical capability list lists actions that an occupier of that sub-region can take more successfully in that sub-region versus other sub-regions. These are advantages awarded by the invisible hand of geography upon the lucky occupiers of that piece of terrain. Critical vulnerabilities are the opposite. These are factors that endanger or weaken the occupier, based on the geographical and the resulting developmental aspects of the sub-region. This chapter will illustrate how geography truly affects every sub-region of the world, dictating its people's character, modes of travel, occupation, level of wealth, and attitudes toward outsiders.

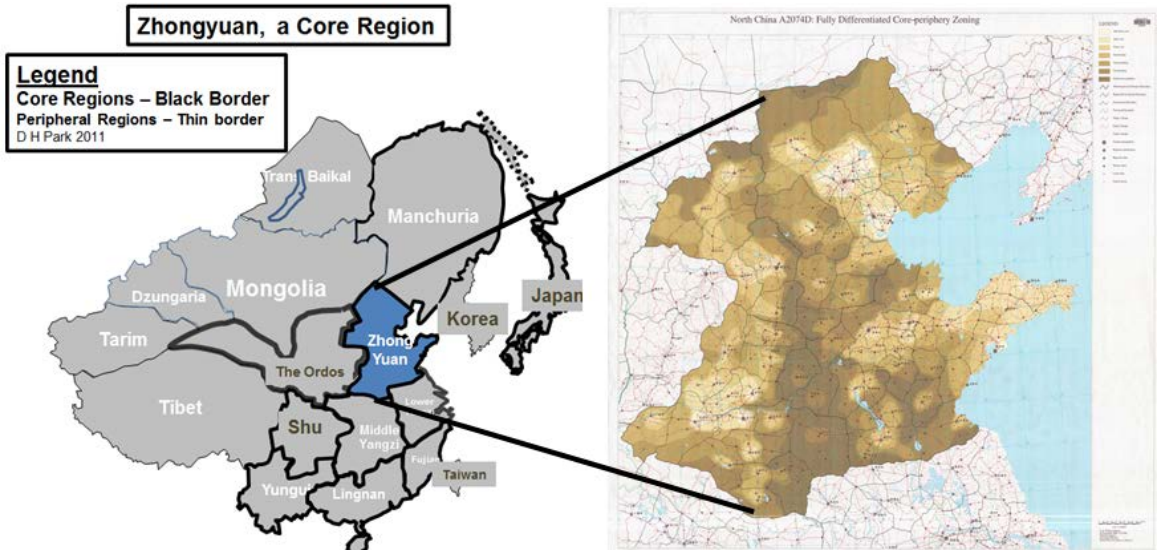
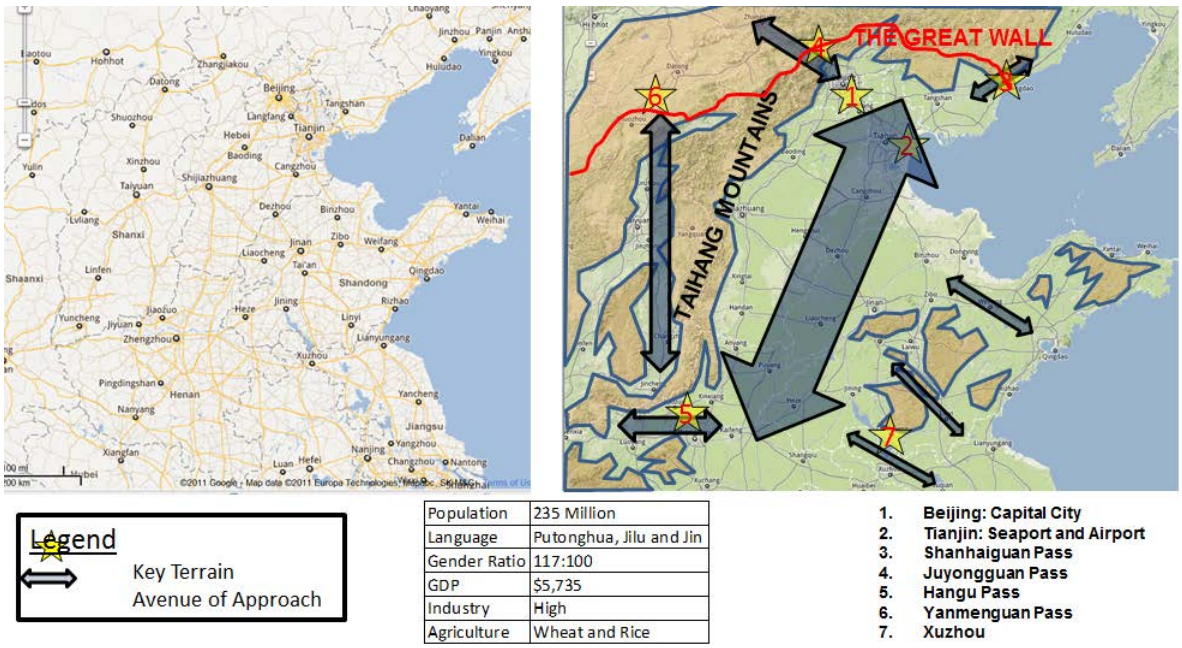


Figure 46. Zhongyuan: The Spiritual and Political Center of China
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

Zhongyuan is the historical core of China. Having expanded during the Qing dynasty to include Beijing, it now boasts a population of over 235 million. The population in Beijing speaks the standard Putonghua Mandarin, the official language of China. In the western Zhongyuan, the Jin language, which is not Mandarin is also used. Shandong and Hebei uses a different dialect of Mandarin, but they are still mutually intelligible with Putonghua. Main cities are Beijing, Tianjin, and Xuzhou. The gender ratio among children under the age of 4 is 117 boys per 100 girls, which is below average for China. A good mix of agriculture, industrial, and technology ensures a stable population. In Beijing and Tianjin, the average PCI is above $5735 per annum. The gap

in income between the haves and have-nots continue to grow, not just within each sub-region, but also between the sub-regions. Due to the cooler climate, the agriculture focuses on wheat production and bread is the main staple of the local cuisine, not rice.

Geographic characteristics



Population	235 Million
Language	Putonghua, Jilu and Jin
Gender Ratio	117:100
GDP	$5,735
Industry	High
Agriculture	Wheat and Rice

Figure 47. The Strategic Terrain of Zhongyuan
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The key terrains of Zhongyuan are numbered and listed in figure 47. Beijing, Tianjin, and Zhengzhou are main sub-regional cities. The out of the four passes, three of them are tied to the great wall. They are, Shanhaiguan, Juyongguan, and Yanmenguan. Throughout the rest of this chapter, key terrains named with the syllable “guan” at then end refer to traditionally identified passes, that have normally been fortified over centuries. Every key terrain has been fought over by numerous dynasties over the past

4000 years. Xuzhou, due to its strategic location in the center of traditional Zhongyuan, or the central plains, hosted two battles in the 20th century, each involving more than a million soldiers. Hangu Pass guards the entrance of the Wei valley, the core of Qin Dynasty. As such, it also saw more than its share of battles.

The Huanghe river dominates the area. The river has changed its course numerous times throughout recorded history, emptying into the Yellow Sea at points both north and south of the Shandong Peninsula. As farming in a large flood plain requires central governance and planning for efficiency, it gave rise to the first civilization in East Asia, the Huanghe civilization. It is significant to note that the modern Chinese word for governance, 治 [*zhi*], is composed of three sub characters, which when written differently, means, controlling the flow of water.[58] The rising population of the sub-region is causing an acute water shortage for this sub-region. The Chinese government is building additional dams in Sichuan and Tibet to divert water from the Southwest to the Zhongyuan sub-region to alleviate this problem.

All of the movement corridors depicted on the map above align with the passes, with the exception of the long corridor west of the Taihang Mountains. That corridor has been used by numerous nomadic invaders to penetrate Zhongyuan. As such, the city of Taiyuan assumes a very strategic role. The taking of Taiyuan by a northern nation signals to the Chinese a very clear aggressive intent. Conversely, a Chinese Army would use the

[58]chineseetymology.org, "Etymology," http://www.chineseetymology.org/CharacterEtymology.aspx?characterInput=%E6%B2%BB (accessed 31 October 2011).

same land to marshal, prior to attacking north of the Great Wall, as has happened numerous times as well.

The most devastating attacks on China have come through this entire sub-region. The open terrain of Zhongyuan makes it a giant avenue of approach for foreign invaders. The Jin in 1127 captured Kaifeng and seized the Song Emperor and his family. The Song Army did not have enough time to react to the fast moving cavalry arriving through the open avenue of approach. The Mongols in the 1270s came through the passes and swept down the Zhongyuan like a wind tunnel, extinguishing the Jin Dynasty in the process. The Qings came through Shanhaiguan in 1644, aided by a Ming turncoat who opened the gates for them. The Japanese in the 1930s also gained momentum through the Zhongyuan before being bogged down in the Yangzi Valley and the lakes of Hunan. The characteristic of Zhongyuan is that it is a high speed avenue of approach, favoring the attacker, and making defense difficult, unless the defender is defending along the mountain range in the North and the West.

As the Great Wall was built along the ridgeline of the natural defenses of Zhongyuan, its capability for defense is not diminished. In 1933, during the Second Sino-Japanese War, the Nationalist Army held the Japanese Army back all along the Great Wall, causing them to reach a temporary political settlement. The Japanese also saw the importance of these gates, focusing their offensive on several of the key fortified passes. Although significantly outgunned and out-trained the Chinese soldiers were able to resist the Japanese Manchukuo Army for three months along the natural defenses of the Great Wall.

Following the seizure of Shanhaiguan and up to 10 major and minor passes along the Great Wall by the Japanese Army, Jiang Jieshi, the KMT leader was forced to draw up a demilitarized zone south and west of the Great Wall, thereby giving up the natural line of defense. Once the Japanese began their offensive again, following the Marco Polo Bridge incident in 1937, the Chinese Army had no line of defense to rally around to halt the Japanese. Following the fall of Beijing, Tianjin, and Kaifeng, seeing that the Wei Valley was in danger, Jiang Jieshi had no choice but to break open the dikes of Huanghe. The intentional flooding of Zhongyuan drowned nearly a million Chinese peasants in the process, but it successfully stopped the Japanese assault, which could no longer be held back within the Zhongyuan given its physical characteristics. But, as flood waters receded, the Japanese continued their attack, only to be stopped at other key passes in provinces further south, later in the war.

Critical Capability:

1. Prestige of historic imperial capital region.
2. Agricultural production.
3. Educated workforce of 280 million.
4. A natural defense orienting North and West.
5. A natural harbor in the form of Bay of Bohai, with Shandong providing protection from invading naval forces.
6. Easy access to Manchuria and it resources.

Critical Vulnerability:

1. No natural defense in the South, hence must rely on Xuzhou and Shandong as strong points.

2. Serious water shortage in the entire sub-region.

3. Vulnerability to flooding, punctuated by the fact that the Huanghe is solely controlled by its dike, as it sits above natural ground level due to millennia of silting.

Bottom line: Zhongyuan today cannot survive without southern Chinese sub-regions providing it water. This re-channeling of water from Shu and Yungui will have second and third order effects on downstream nations of Southeast Asia. 280 million people with low water availability is a crisis in the making.

The Ordos: The Fortified Old Heart of China (Also a Geopolitical Pivot)

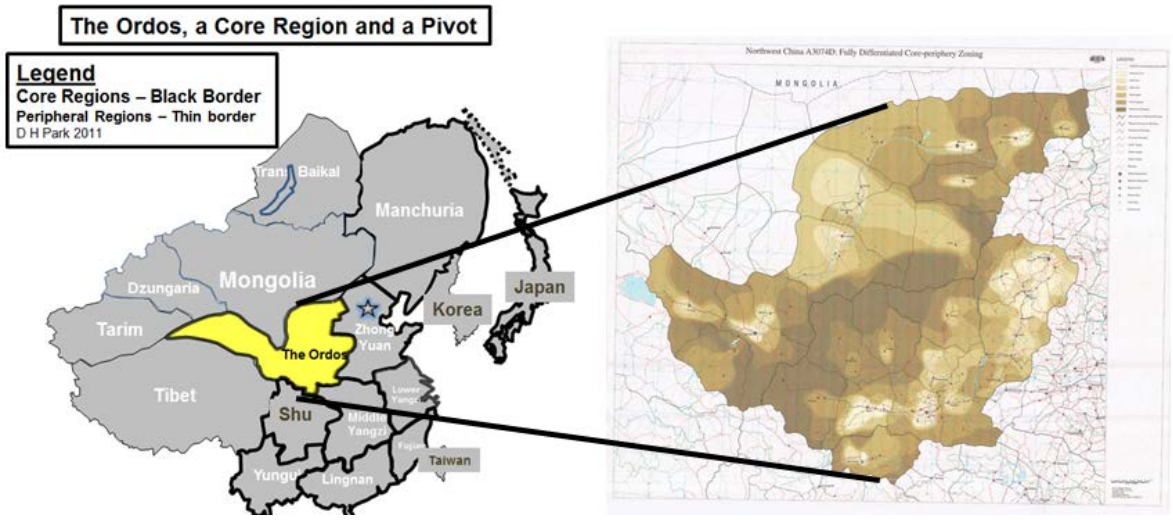


Figure 48. The Ordos: The Fortified Old Heart of China
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

As one of three natural fortress sub-regions of China, the Ordos is also the traditional sub-region of War in China. Qin Dynasty, the first to unite the warring states, rose from the Wei Valley South of Ordos. The original capital of China, Xian, is in this sub-region. Taiyuan in the North and Lanzhou in the Wes,t are the other two key cities. The Gansu corridor connects the core sub-regions of China to the West. Historically, all Silk Road commerce and visitors from the West came through the Gansu corridor and the Wei Valley. The population in the Ordos sub-region is about half that of Zhongyuan, or about 118 million. The gender ratio among children under the age of four is about 118 boys to 100 girls, an average percentage among the sub-regions of China. The Jin dialect of Mandarin is spoken in the north, which despite official propaganda, is mutually unintelligible for Putonghua speakers. People living in the Wei Valley speak the Guanzhong dialect of Mandarin, which has a different accent than Beijing Mandarin. However, Guanzhong is more intelligible to Beijing speakers than the Jin language, which is entirely unintelligible.

The industry is poorly developed and the people are significantly poorer in the Ordos than in Zhongyuan. The average PCI is $2000 per annum, with Gansu PCI at about $1000, and increasing to over $3000 in the eastern Wei Valley of Henan.. Poor quality soil discourages farming. Ordos is mainly a desert/grassland combination, best suited for pastoral herding, not farming. This explains why many Mongol and Turkish tribes settled in the Ordos throughout history.

Geographic characteristic

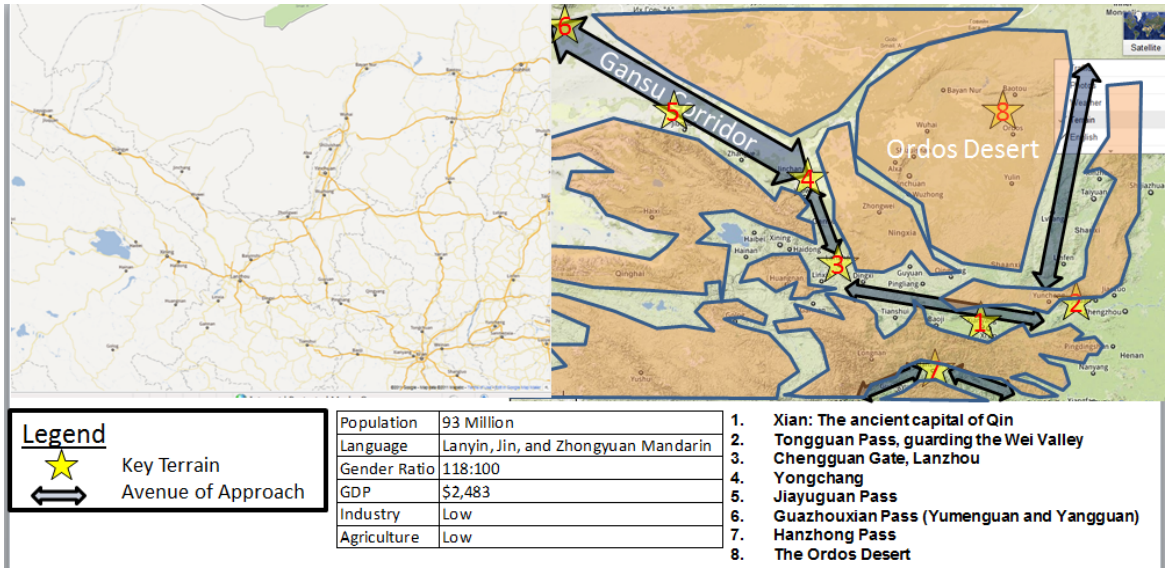


Figure 49. The Strategic Terrain of the Ordos
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

Key terrains listed in figure 49 make the Ordos a natural fortress and a geopolitical pivot. It is protected on the northern flank by the Huanghe River and the Great Wall, while a Loess plateau completely dominates the western half of the sub-region. The southeast of the sub-region is the Wei Valley, protected on three sides by steep mountains. The Tongguan Pass and the Hanggu Pass successfully defended the Qin Dynasty from the fury of the rest of the warring states for hundreds of years. Despite being the smallest and the weakest among the warring states, the natural fortress of the Wei Valley allowed Qin to build up its strength while the rest of the Warring States destroyed each other.

The most significant factor in the Ordos are the three major avenues of approach. The Gansu Corridor allows the owner of the Ordos to dominate the Silk Road trade or to expand militarily westward. The Wei Valley, protected by two fortified passes, allows the owner to burst out into the Zhongyuan at the right time. The Hanzhong Pass allows the owner of the Ordos to enter or prevent the exit of forces from the Sichuan basin, another significant sub-region of China.

Critical Capability:

1. Ability to defend against superior forces from the east due to geographical advantage.
2. Access to the Silk road via the Gansu Corridor in the West.
3. Direct access to the Zhongyuan and Sichuan.
4. A dynasty that unites the core sub-regions of China can expand through the Ordos to the west, easily doubling the size of the realm, and creating trade opportunities with Central Asia and beyond.
5. Much of the transcontinental rail systems and gas pipes from Central Asia come through the Gansu Corridor to the rest of China.

Critical Vulnerability:

1. A dearth of arable farmland means low food production, low revenue in general.
2. Narrow valleys and desert in the north prevents the buildup of large industries.
3. The Gansu Corridor has been traditionally difficult to defend from the West. Today, as a choke point, it presents a concentration of high payoff targets in a narrow and long corridor.

4. No access to the ocean and international commerce.

Bottom line: The Ordos is a great place to defend and rebuild your forces while biding time. This was the final destination of Mao Zedong's Long March in the 1930s. But its not a place to get rich through farming or industrial development. However, it does offer access to many sub-regions. It is the barren and fortified geopolitical pivot of China.

The Middle Yangzi: The Breadbasket of China

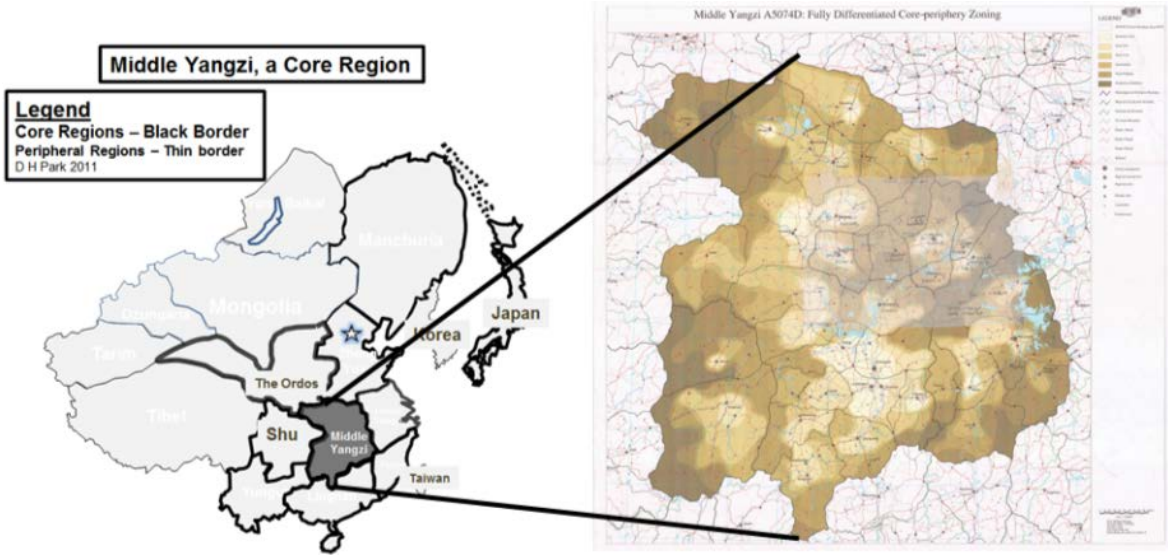


Figure 50. The Middle Yangzi: The Breadbasket of China
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

The Middle Yangzi is traditionally populated by farmers living in the well irrigated farming sub-region between the Huanghe and the Yangzi. It is now home to many different industries as well as farmers. The core cities are Wuhan and Changsha.

Wuhan people speak the southwestern dialect of Mandarin, which is believed to be the old Ming language. Changsha people speak a non-Mandarin language of Xiang, also known as Hunanese. This sub-region has always been more agriculture oriented due to the Yangzi. The weather here is humid and hot in a subtropical manner, perfect for growing rice and corn.

The Middle Yangzi population is over 216 million. At 138 boys to 100 girls, the gender ration for children under the age of four is the worst in China. The PCI in the Middle Yangzi sub-region is about $3721, average within China, with higher income in Hebei in the North.

Geographic characteristics

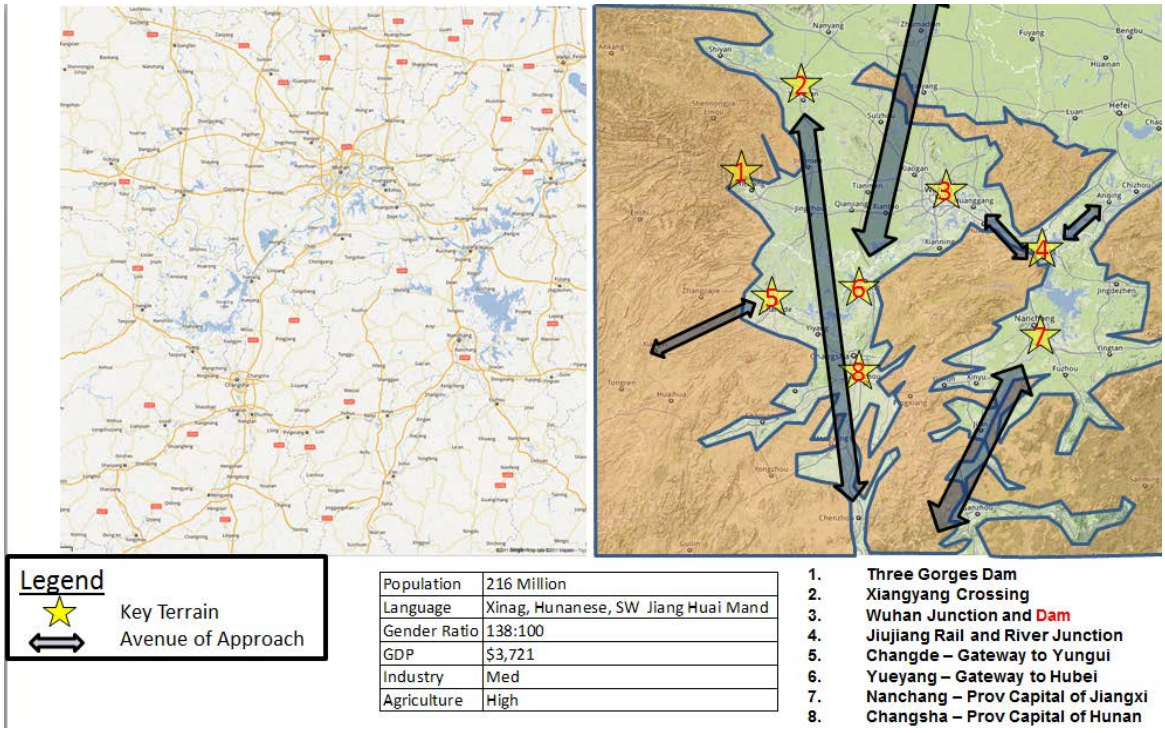


Figure 51. The Strategic Terrain of Middle Yangzi

Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The middle Yangzi sub-region is composed mostly of the following three provinces, Henan, Hubei, and Hunan. Henan means south of the Huanghe. Hubei and Hunan means north and south of the lakes. These lakes are on both sides of the Yangzi River, which is the central feature of this sub-region. The river provides easy transportation and commerce. The Yangzi, ever since the Qin Dynasty in the second century BC, has been intermittently connected to the Huanghe by the Grand Canal. The people of the Middle Yangzi as a result have had expertise in riverine navigation and warfare. As such, the river acted not only as a conduit for commerce and transportation, but also as a natural line of defense. Three different linguistic groups occupy all three key cities of Wuhan, Changsha, and Nanchang, preventing the sub-region from truly coalescing as a single unit.

The Middle Yangzi has been a center of southern Han resistance against nomadic invaders throughout history. The city of Xiangyang in Hubei resisted the Mongols in a record setting six years of siege, necessitating the Mongols to bring Muslim siege engineers from Iraq to destroy its walls using European inspired trebuchet design, learned from the Crusaders. The fact that the city of Xiangyang was able to stockpile six years' worth of food, speaks volumes about the agricultural nature of this sub-region.

The three gorges area connecting the sub-region to Shu has been heavily fortified, and presents a very tough challenge to any invader wishing to move upstream to the Shu sub-region. The recent construction of the Three Gorges Dam has made the matter only more permanent. The river does not offer an avenue of approach into the Shu sub-region.

The canalizing plain results in a narrow series of passes leading to the Lingnan area to the south, which is a further culturally isolated area. Aside from the river and the

lakes, the plain presents little natural obstacle. Once the river and the lakes are penetrated, the invading force easily reaches the lower Yangzi and the Lingnan sub-region. Conversely, forces from the Lingnan, such as the Taiping Rebels, are able to use the Central Yangzi funnel to spread out throughout the other sub-regions of China. Hence, the cities are well fortified with high walls.

Critical Capability:

1. Agricultural center of China.

2. Ability to defend along the Yangzi Valley.

3. Land Highway north and south.

4. Water highway east and west.

Critical Vulnerability:

1. Once Yangzi is penetrated, no defense available.

2. Possibility of regular flooding.

3. Open to invasions from the south through numerous passes.

Bottom line: The central Yangzi valley is the agricultural breadbasket of China. The river is the central feature, providing defense as well as transportation. Given the flat plains, the cities have traditionally been fortified with high walls.

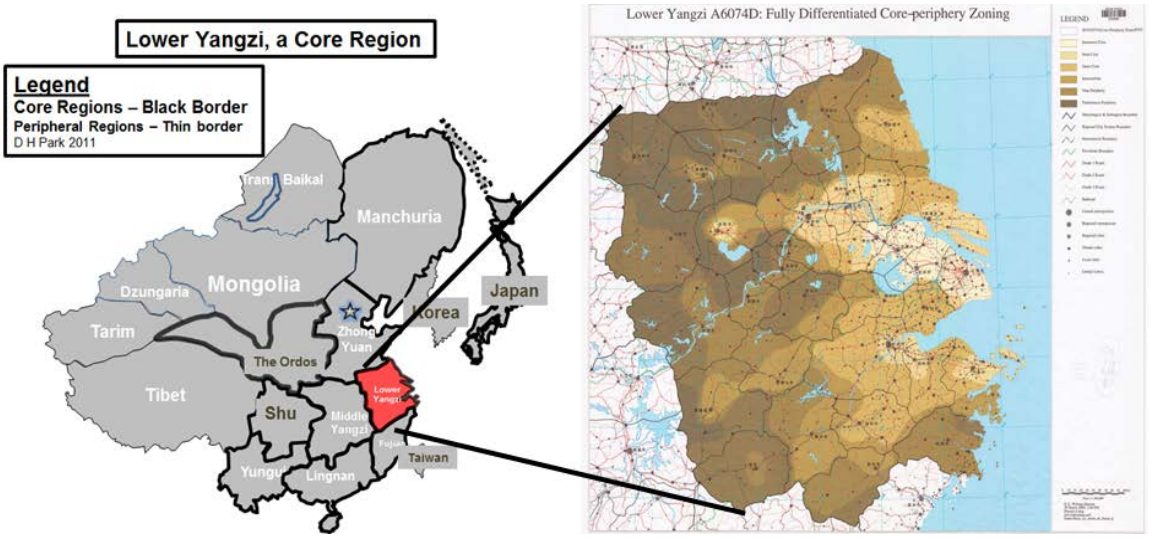


Figure 52. Lower Yangzi: The Richest and the Most Cosmopolitan Sub-region of China
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 Septemer 2011).

The Lower Yangzi is the most economically advanced and culturally cosmopolitan area of China. The cities of Shanghai and Suzhou have essentially coalesced into a single megalopolis. Hangzhou and Nanjing are within range to be swallowed up in the current century. This megalopolis of single urbanized area will be the second largest, after the Guangzhou-Hong Kong megalopolis in the Lingnan sub-region.

The Lower Yangzi population is over 215 million. The sub-regional gender ratio for children under the age of four in Lower Yangzi is about average within China. There are about 123 boys for 100 girls in the Lower Yangzi sub-region. The PCI in the middle

Yangzi sub-region is about $6650, which is the highest among the sub-regions in China. Zhejiang and Jiangsu Provinces average over $5000 per annum, while the inner province of Anhui lags at under $2000.

The Lower Yangzi people speak the Jinghuan dialect of Mandarin which is mutually unintelligible with Putonghua. Up to 70 million others speak the Wu language, which is a non Mandarin language.

Geographic characteristics

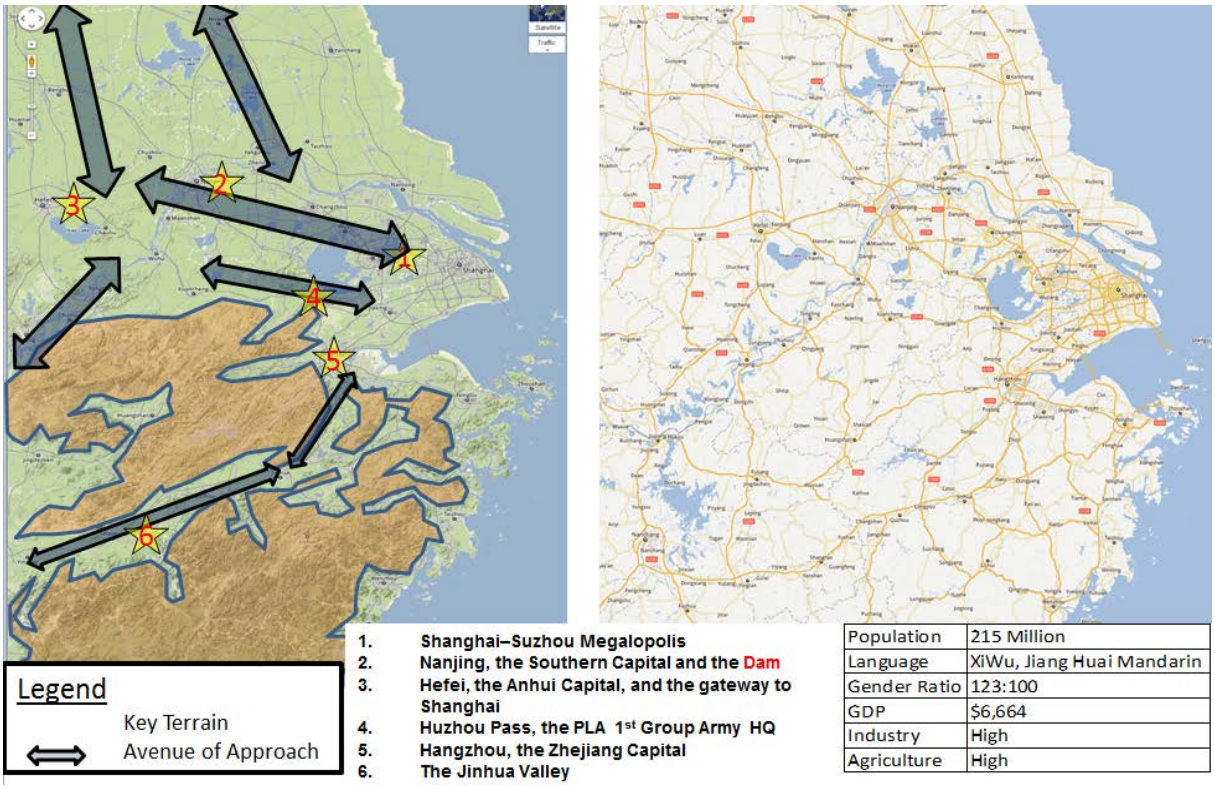


Figure 53. The Strategic Terrain of Lower Yangzi
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The Shanghai megalopolis sub-region is defended on the northern flank by the Yangzi River, which is at its widest in this sub-region. The city of Nanjing, 70 miles to its West, was cited here precisely for its strategic depth from the northern frontier. However, the city of Nanjing has not had much luck in withstanding sieges, whether during the southern Song Dynasty, or during the Taiping rebellion.

The river does provide defense, but over time the northern dynasties improved in its forcible gap crossing operations. The Japanese took the city in 1937 following an amphibious assault from the sea. It is a rich and important metropolis that is nearly impossible to defend. The nearby Fujian mountains does offer a defensible fallback position.

The Grand Canal, first built in 605 by the sui dynasty, and continuously lengthened and improved, connects the sub-region with Zhongyuan. The canal starts at Hangzhou (key terrain 5 in figure 53) and goes through Suzhou (key terrain 1) and works its way up north through the NE avenue of approach in figure 53, terminating at Beijing.

Critical Capability:

1. Rich industry, commerce, and cultural center of China.
2. Transportation hub using the road networks, the river, and the Grand Canal.
3. Export orientation given the harbor.
4. The Yangzi River is at its widest in this sub-region, providing a defensive perimeter to the north.
5. Escape route to the Fujian mountains is an option for the local elites.

Critical Vulnerability:

1. No natural defense once the river is breached.

2. A history of easy conquest by northern invaders.

3. Possibility of regular flooding.

4. Open to invasions from the north through the Zhongyuan plains.

Bottom line: The rich lower Yangzi area is open to easy conquest from the north, as well as from the sea. As a sub-region, it cannot maintain autarky as a result. Its reliance on export-oriented commerce requires a strong naval security to keep the maritime lines of communication open.

Shu: The Mountain Fortress, the Traditional Refuge for Underdogs

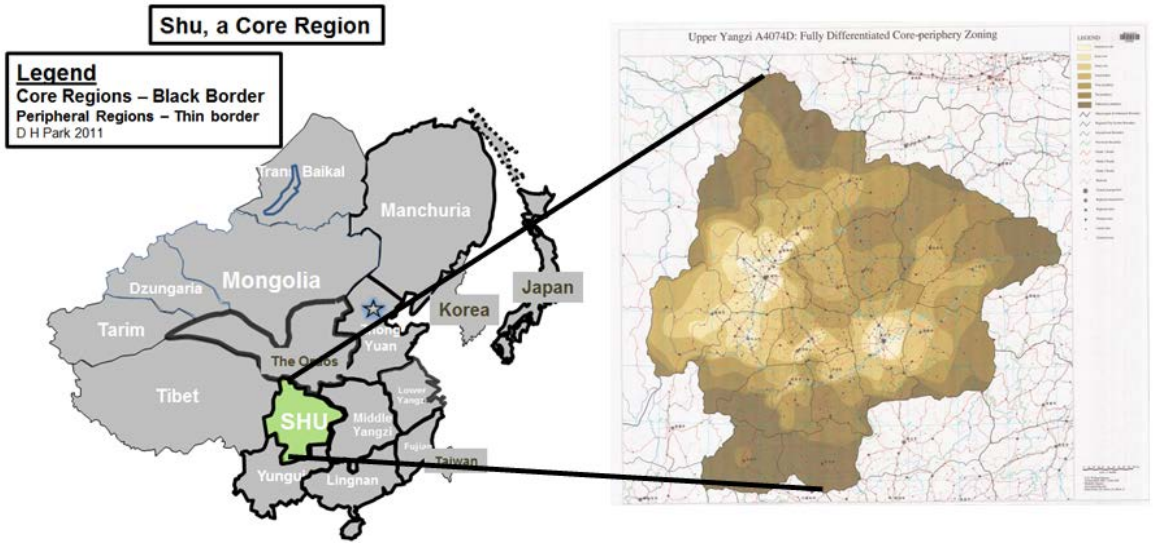


Figure 54. Shu: The Mountain Fortress, the traditional refuge for underdogs
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

As one of three natural fortress sub-regions of China, it is also the traditional refugee area of China. It is named after the Shu Dynasty that was centered around the

Sichuan basin during the Three Kingdoms period. Protected within the natural basin, surrounded by high mountains, the sub-region saw two additional independent dynasties named Shu seven centuries after the first one. During the Qing Dynasty, there were three major rebellions involving the Shu sub-region, attesting to its strong sub-regional identity. *The Romance of the Three Kingdoms*, a perennial best seller throughout the entire East Asia romantizes the kingdom of Shu, which may explain the continued devotion to its memory in the region.

The Shu sub-regional population is 109 million. The sub-regional gender ratio for children under the age of four in the Shu is about average within China. There are about 119 boys for 100 girls in the Shu sub-region. The Shu sub-region people speak one of many variants of the Southwestern dialect of Mandarin which is mutually unintelligible with Putonghua.

The PCI in the Shu sub-region is about $3352, which is about average among the sub-regions in China. The land is fertile, and rice is the staple crop, with agriculture throughout the sub-region.

Geographic characteristics

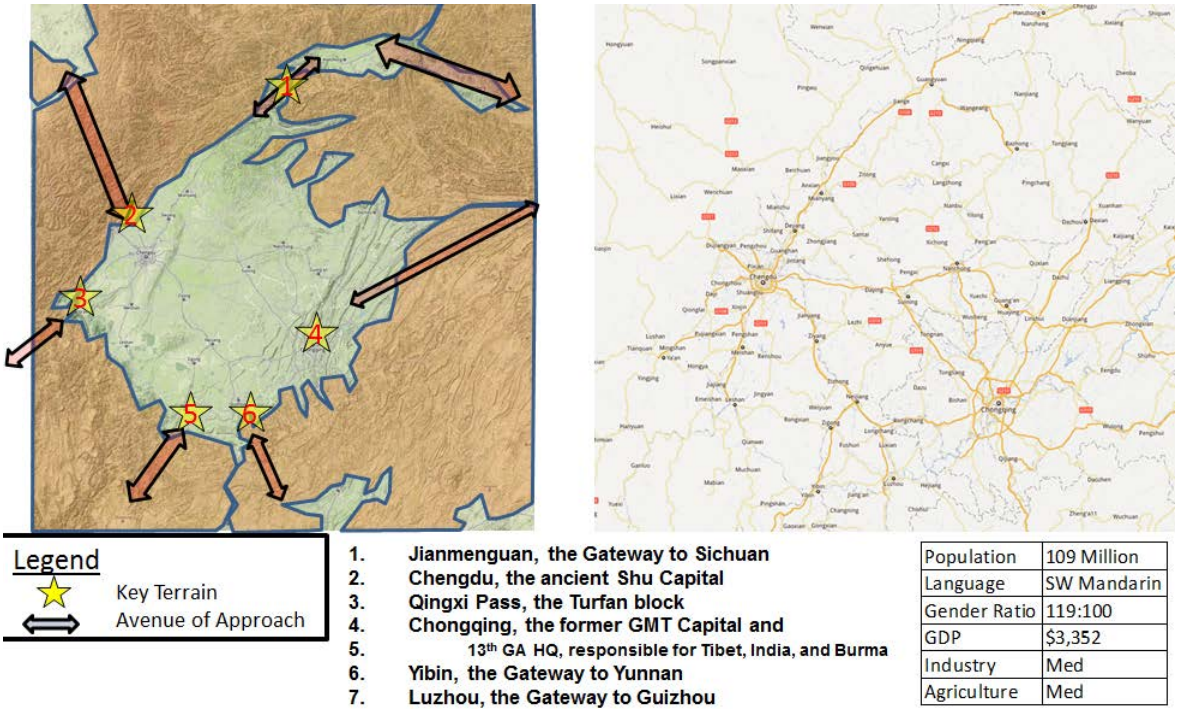


Figure 55. The Strategic Terrain of Shu
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The Sichuan basin is the main geographical characteristic of the Shu sub-region. It provides the sub-region with a natural barrier against outside invasions. There are only a few natural passes that connect the sub-region to the outside. This remoteness has caused the sub-region to develop its own peculiar culture and cuisine. Even its Mandarin is unintelligible to outsiders.

Its easily defended area provided the center of Chinese resistance against the Japanese during WW II. General Stillwell was headquartered in Chongqing along with

the KMT. Even the Taiping rebels, following the capture of their capital, Nanjing, retreated to the Shu sub-region before their ultimate dissolution.

Critical Capability:

1. Easily defended natural fortress.

2. Ability to enter the Tibet and the Yungui sub-region.

3. Decent population to support a tax base and a army.

4. Sizeable agricultural land within the basin.

Critical Vulnerability:

1. Limited industry and commercial capability.

2. Limited access to outside sub-regions and trade.

3. Can be blocked in by outside forces at the key passes.

Bottom line: The Shu sub-region is a natural fortress, but can also serve as a natural prison. Hard for outsiders to capture, but it is easy to blockade. The basin offers decent agriculture land but there is no real industry that has developed in the sub-region. Allied with Yungui, it can expand to the southern sub-regions. With a strong heritage of independence, the Shu sub-region has a major rebellion at least once a century for the past 500 years.

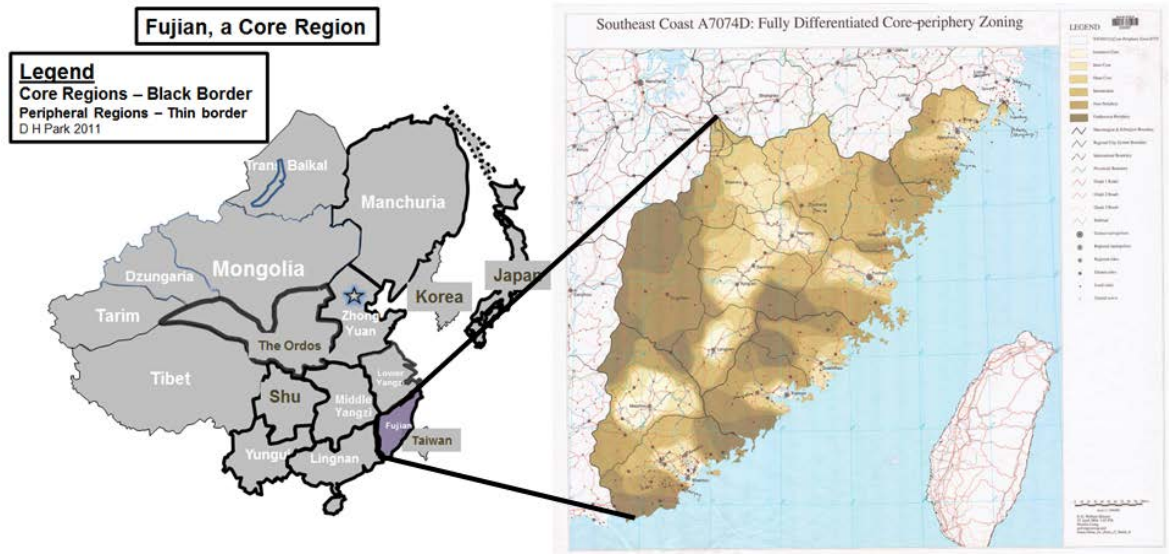


Figure 56. Fujian: The Traditionally Seaward Looking Fortress Province
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

The Fujian sub-region is one of three fortress sub-regions of China. The Fujian sub--regional population is 81 million. The sub--regional gender ratio for children under the age of four in the Fujian coast is about average within China. There are about 122 boys for 100 girls in the Fujian sub-region. The Fujian sub-region people speak one of many variants of the Hakka or the Min language, which are mutually unintelligible with Putonghua.

The PCI in the Fujian sub-region is about $4314, which is above average among the sub-regions in China. The land is 80 percent mountainous, restricting agriculture. The sub-region has traditionally been outward focused, with an emphasis on maritime trade. The Fujian sub-region is the sub-region of origin for the majority of overseas Chinese

communities in Southeast Asia. The older Chinese communities in America also hail from the Fujian sub-region. The sub-region has not been rich in the last century, but with the travel restriction with Taiwan being relaxed, its economy has taken off.

Geographic characteristics

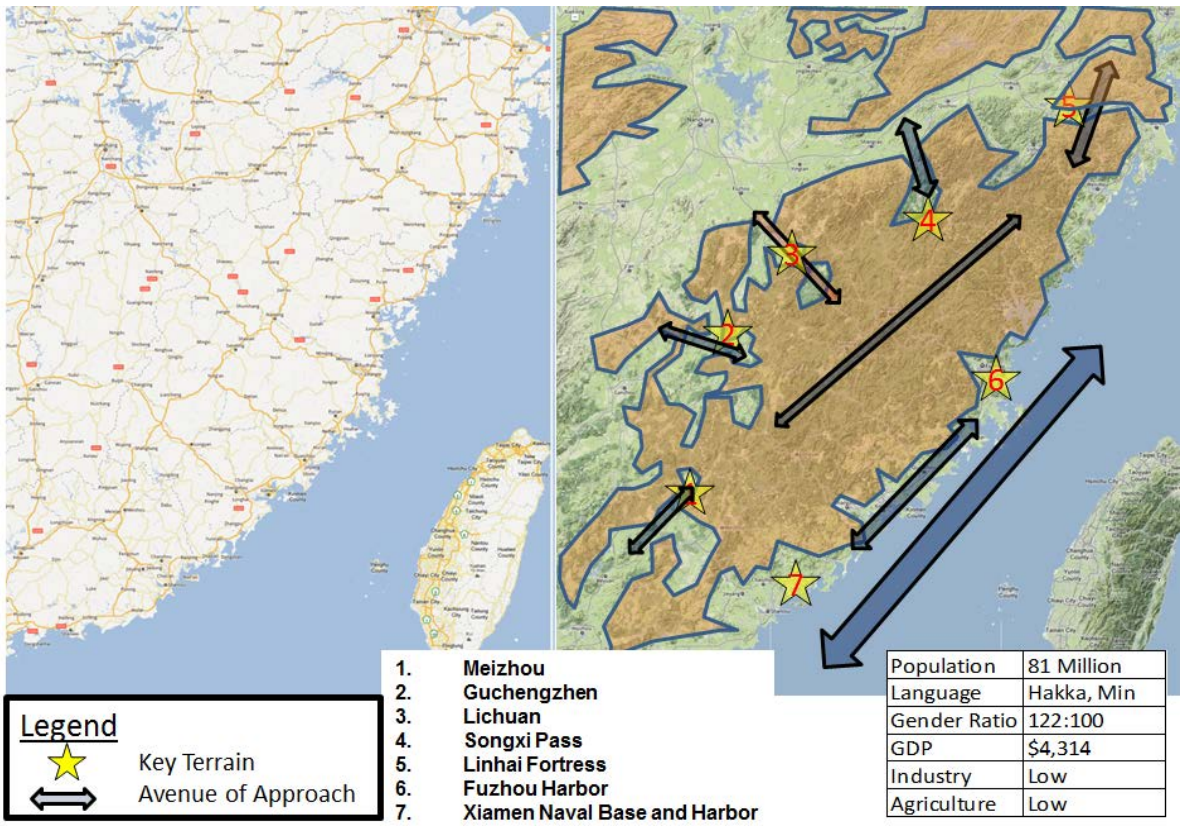


Figure 57. The Strategic Terrain of Fujian
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The fortress sub-region of Fujian is severely limited in its potential by its mountainous terrain. As seen in figure 62, the coastal cities of Fuzhou and Xiamen are the main points of economic development. They were two of 14 treaty ports opened after

the Opium War in 1840s. Their economic fortunes were cut short in 1949 when the KMT government retreated to Taiwan, resulting in the People's Republic of China (PRC) limiting the commercial activities along Fujian, turning it into a military frontier. However, since 2008, direct travel and trade with Taiwan has been authorized, lifting the economy of the Fujian ports.

The mountains that have prevented the sub-region from developing, also provided natural defenses for the sub-region. The Fujian sub-region was one of several sub-regions not conquered by the Qin Dynasty in its "unification" of China in 221 BC. The Yue minority of the sub-region maintained its own kingdom for centuries. The Wu Dynasty, centered in the Nanjing area, undertook a 20 year campaign to subdue this area, from 240 to 260 AD. It saw a Min resurgence following the fall of the Tang Dynasty. The sub-region was the base for Ming loyalists following the Qing invasion in the 1640s. It came under the Anhui Army's control during the Warlords era 100 years ago. The Chinese diaspora throughout Southeast Asia has been predominantly the Min people from the Fujian sub-region. This applies to some of the older Chinatowns in the US, such as San Francisco and Manhattan, in New York City. The larger implication of the Fujian diaspora is yet to be researched.

Critical Capability:

1. Linkage between the continent and Taiwan.
2. A maritime corridor with Taiwan on the other side providing an insular trade corridor.
3. Easily defended from a landward invasion.
4. Ability to threaten, interdict, or neutralize the lower Shanghai sub-region.

5. Ability to threaten, interdict, or neutralize the Lingnan ports.

Critical Vulnerability:

1. Limited industry and commercial capability.

2. Can be blocked in by landward forces at the key passes.

Bottom line: The Fujian coast is a mountainous but coastally thriving commercial trade sub-region. Despite its lack of industry and agriculture, its network of Fujianese ports throughout Southeast Asia makes it a hub of a maritime Fujianese culture. Its connection to Taiwan also gives it much needed foundation in maritime commerce.

Yungui: A Land of Valleys and Rivers, now Home to a Hundred Dams

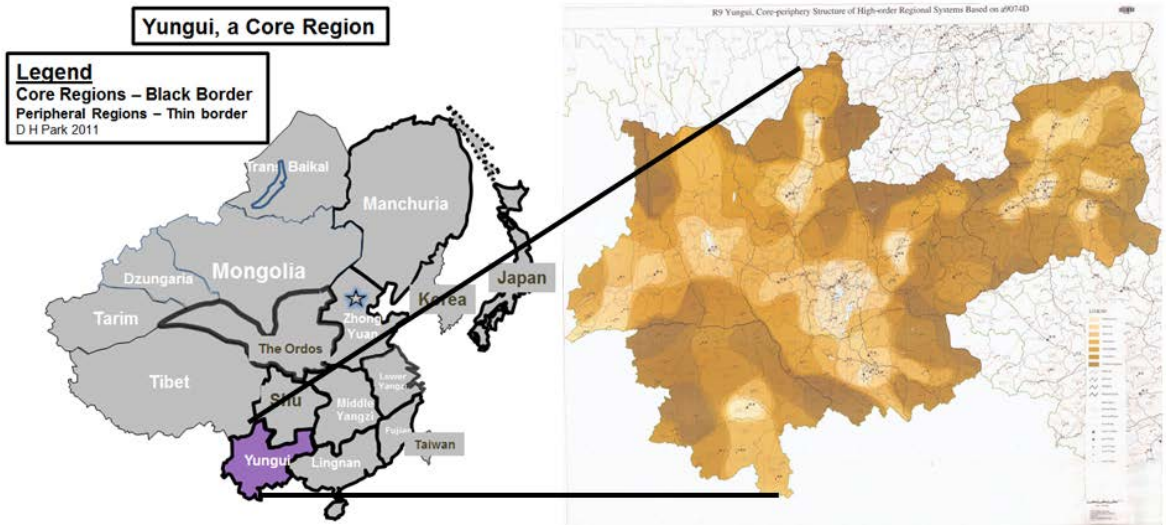


Figure 58. Yungui: A Land of Valleys and Rivers, now Home to a Hundred Dams
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

The Yungui is the least developed and the least “sinicized” among the nine core sub-regions of China. The Yungui sub-regional population is 80 million. The sub-regional gender ratio for children under the age of four in Yungui is about average within China. There are about 120 boys for 100 girls in the Yungui sub-region. The Yungui people speak one of many variants of the Southwestern dialect of Mandarin which is mutually unintelligible with Putonghua. This is in addition to numerous minority languages, which are not related to the Sino-Tibetan language family.

The PCI in the Yungui sub-region is about $2162, which makes it the poorest among all the sub-regions in China. The land is almost entirely mountainous, restricting agriculture. The sub-region has traditionally been inwardly focused, enjoying long periods of independence from the rest of core sub-regions of China. It is the home to the greatest number of ethnic minority groups. The sub-region until recently was dominated by a small but sizeable Muslim minority who settled the area in the Tang Dynasty. Most of them left in 1949, following their KMT allegiance. The sub-region is known as the hub of illicit drug trade along the porous Burmese border.

Geographic characteristics

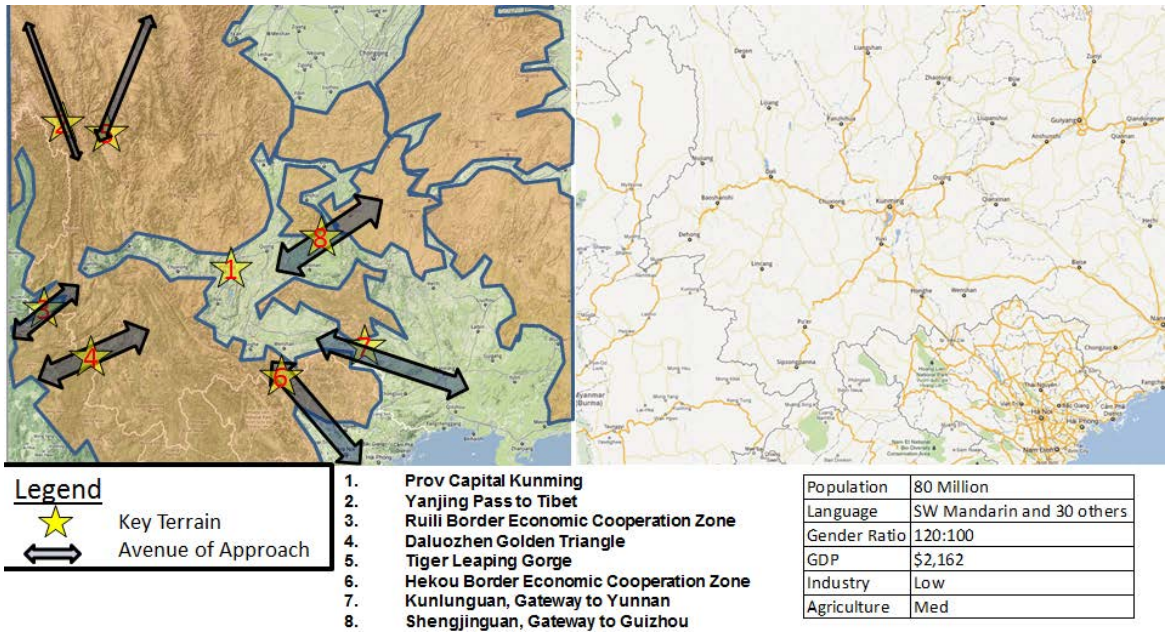


Figure 59. The Strategic Terrain of Yungui
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

Mountains and deep valleys dominate the sub-region of Yungui, which is composed of two main provinces of Yunnan and Guizhou. Six main rivers that originate in Tibet pass through the valleys of Yunnan en route to India, Bangladesh, Burma, Laos, Thailand, Cambodia, and Vietnam. The Chinese have built or are building eight dams on the Mekong River alone, mostly within the Yunnan province.[59] This river feeds Laos, Cambodia, and Vietnam with their heavily irrigation dependent rice agriculture. A 13

[59]Denis D. Gray, "China's Control of Rivers Raises Neighbor's Fears," *Richmond times-Dispatch*, 21 April 2011, http://www2.timesdispatch.com/news/2011/apr/21/TDMAIN02-Chinas-control-of-rivers-raises-neighbors-ar-986318/ (accessed 30 October 2011).

dam cascade is planned for the Salween River, which feeds Burma and Thailand. Along the Yangzi upstream, 13 additional dams to the already existing Three Gorges Dam, will provide electricity and water to the populous sub-regions of Zhongyuan. It is difficult to get a full picture of the total damming project, but a figure of 143 total dams is available in the open source.[60] This is a source of potential friction with all of China's neighbors to its south, given their rising population and shortage of water.

In addition to the water problem, this sub-region is also China's lawless border sub-region. Protected by the deep valleys and rainforests, the illicit border traffic involving smugglers and drug traffickers have been endemic here for decades. The valleys of the same rivers that supply Southeast Asia with water from the Tibetan highlands provide a high-speed avenue of approach for the smugglers.

[60]Renee Cho, "The Push to Dam China's Rivers," Blogs from the Earth Institute, 19 May 2011, http://blogs.ei.columbia.edu/2011/05/19/the-push-to-dam-China%E2%80%99s-rivers/ (accessed 30 October 2011).

Figure 60. 3D Mapping of Irrawaddy Valley
Source: Google Earth (accessed 7 November 2011).

Figure 60 is a 3-D mapping of the Irrawaddy Valley, connecting China and Burma. Controlled by Burmese Generals, many of whom are descended from Chinese ethnic groups or from the escapees from the Panthay rebellion in the mid-19th century, the sub-region has its own way of doing things, much in the way of the Peshawar sub-region in Pakistan.

The Yungui sub-region has traditionally been a separate kingdom, closer in identity to Burma than to China. It is the last sub-region within the Chinese core to have been Sinicized. The Ming Dynasty achieved that in 1381, rather late in their unification timeline. The Nanzhao Dynasty ruled the area until 937, replaced by another local kingdom, the Kingdom of Dali, which lasted until the Mongol Conquest. Following the Mongol Conquest, the area served as the last bastions of both Mongol and Ming remnants against new regimes, in both the 1300s and 1600s. The Nanzhao and the Mongols

successfully invaded Burma destroying the Pagan Kingdom in the late 1200s, and replacing it with the Shan Dynasty.

Critical Capability:

1. Dams control water supply to the rest of Southeast Asia, India, and Zhongyuan to the north.
2. Dams provide electricity to the sub-region and beyond.
3. Easily defended from a landward invasion.
4. Ability to threaten, interdict, or neutralize Burma as well as Lingnan.
5. Trade with Southeast Asia.

Critical Vulnerability:

1. No access to ocean, limiting export oriented industrialization.
2. Can be blocked in by landward forces at the key passes.

Bottom line: The Yungui sub-region is the Peshawar of China. Composed of various minority groups, with a long history of sub-regional independence, it is now being heavily dammed to serve the Zhongyuan with its water and power. Its link with Burma through illicit and legal trade is growing. The consequences of building 140 dams in the rivers of the sub-region will have a tremendous impact in all neighboring countries.

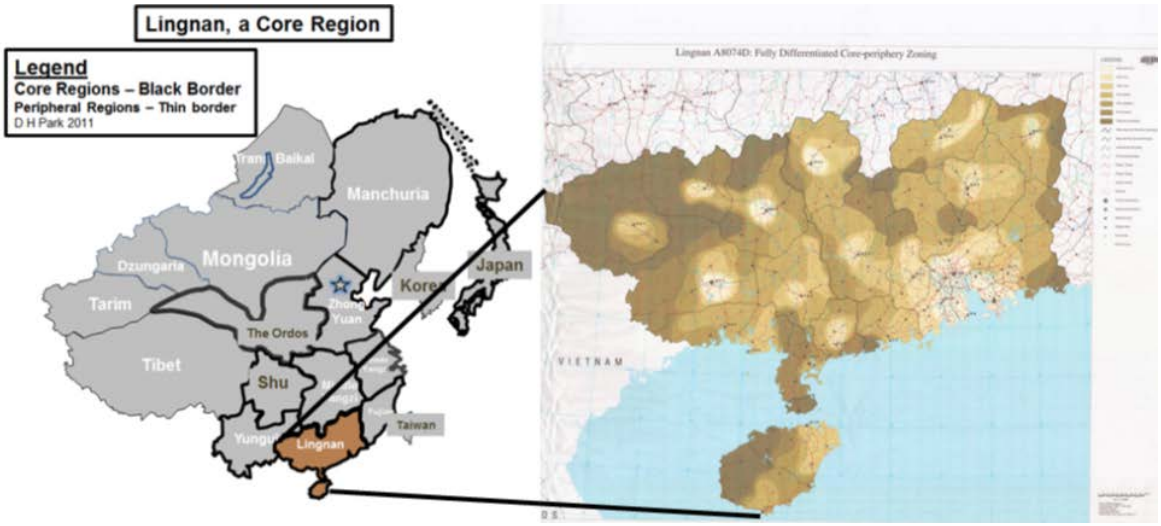


Figure 61. Lingnan: A Rich Manufacturing and Export Center of China
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

The Lingnan sub-region, originally populated by the various tribes of Yue people, has received a heavy immigration of "ethnic" Hans throughout the ages, because of Han people escaping northern invasions, since the end of the Han Era in the second century AD. However, as these ethnic Hans intermarried with the local Yue people, they retained their culture, but adopted the Yue language, keeping the sub-region linguistically foreign to the rest of China. The Cantonese dialect of the Yue language, along with numerous Yue dialects, dominates the sub-region. The separate culture of the Lingnan people is accentuated by the Hong Kong movie and entertainment industry, which uses the Cantonese language, which rivals the Mandarin entertainment industry of China.

The Lingnan sub--regional population is 159 million. The sub--regional gender ratio for children under the age of four in Lingnan is above average within China. There are about 129 boys for 100 girls in the Lingnan sub-region. The Lingnan people speak one of many variants of the the Yue language, of which Cantonese is the most populous in the sub-region. Its different word order makes it not only verbally unintelligible to the Mandarin speaker, but its writing is also indecipherable to a Mandarin writer.

The PCI in the Lingnan sub-region is about $5298, which makes it the third richest sub-region, after Lower Yangzi and the Zhongyuan. The land is very fertile and the tropical monsoon climate allows for two planting and harvest seasons per year. The ports of Guangzhou and Shenzhen have traditionally been the centers of Chinese maritime trade. With the integration of Hong Kong and Macau, this sub-region has become the center of export oriented manufacturing.

Geographic characteristics

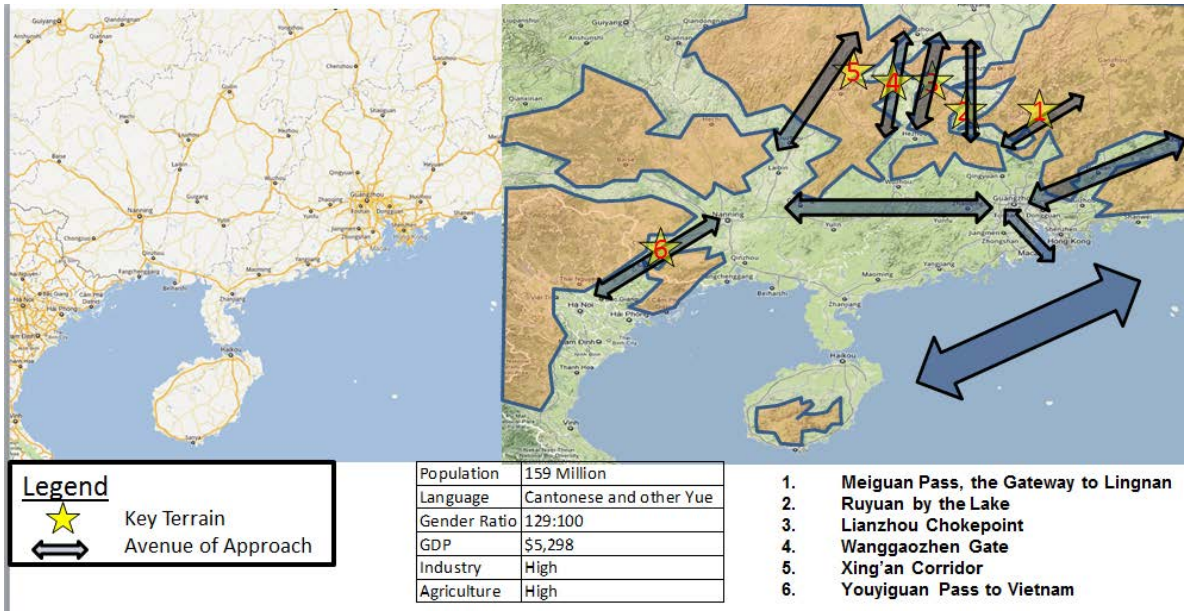


Figure 62. The Strategic Terrain of Lingnan
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The port city of Guangzhou has coalesced with Shenzhen, the port of Hong Kong and Macau into a single megalopolis, with a population reaching 40 million. The province of Guangdong is the most populous province within China. It has been the most internationally aware of all the sub-regions in China, since the Arab-Persian sacking of Guangzhou in AD 758.[61] The epicenter of British contractor-led Opium importation, that resulted in the Opium War of 1840, the port of Hong Kong, was leased to the British until 1997. The sub-region's spectacular economic growth is only equaled by its spectacular

[61]Canton Fair, "Guangzhou History," http://www.cantontradefair.com/cityguide/guangzhou-history.aspx (accessed 30 October 2011).

disparity of wealth between the rich Guangdong province and the poor Guangxi province to the west.

The four main passes to the North protect the sub-region, which helped it maintain its sub-regional identity over the centuries. Used by the KMT as their foundational sub-region, it is easily defended from land, but difficult to defend from the sea, as witnessed by the Opium War, as well as the Japanese seizure of Hong Kong in 1942.

Critical Capability:

1. Great export oriented economy with infrastructure to support trade.
2. Protection from landward invasions from the north.
3. Excellent harbors supporting maritime trade.
4. Well educated work force of 160 million that allows it near-autarky.
5. Tropical climate allows for double harvest per year.

Critical Vulnerability:

1. Hard to defend against seaward invasion.
2. If a northern faction seizes Fujian, Lingnan is next. There is no way to stop a determined invader coming downhill from Fujian. A faction centered in Lingnan must secure Fujian as a result.
3. A tradition of strong sub-regional identity weakens its ties to Beijing.

Bottom line: The Lingnan is the second wealthiest sub-region in China. It enjoys a tradition of globalization and diversity dating back to the Tang Dynasty. Its tremendous wealth is coupled with its historically weak link to Beijing and the northern parts of

China. Its soft power, represented by the Hong Kong movie industry is global in reach, and is easily distinguished from the mainstream Chinese culture.

Manchuria: Heavy Industry Production Center of China

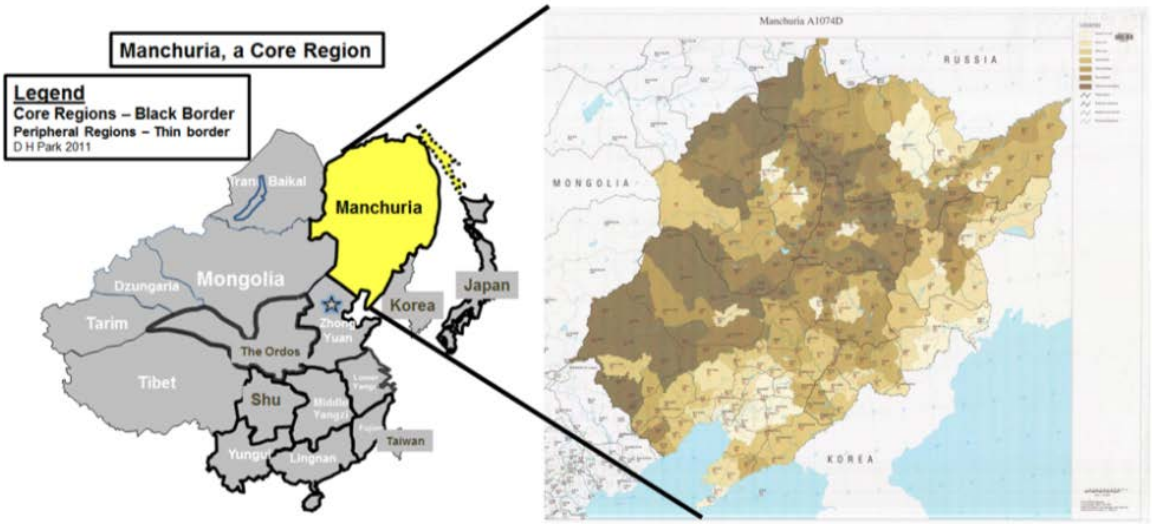


Figure 63. Manchuria: Heavy Industry Production Center of China
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

Manchuria is the last sub-region to be incorporated into the core sub-regions of China. Historically, it has never been settled by ethnic Han Chinese until very late in the Qing Dynasty. Originally populated by various Jurchen, Khitan, and Korean tribes, it achieved unification multiple times in history, always as a precursor to an invasion of Zhongyuan through the Shanhaiguan pass. The Qing Dynasty, assisted by Joseon Korea, fought the Russians in a series of battles in the 1600s culminating in the Treaty of Nerchinsk in 1689, which gave the Qings all the land of the Amur river basin. This

remained in place until the 1850s when Russia, using the opportunity afforded by Qing defeat in the Opium War, seized all the land North of the Amur, and down the coast to Vladivostok.

The Manchurian sub-regional population is 110 million. The sub-regional gender ratio for children under the age of four in Manchuria is below average within China. There are about 120 boys for 100 girls in the Manchurian sub-region. The Manchurian people speak the Northeastern dialect of Mandarin, which is very similar to the Beijing Putonghua. This is a result of most Manchurian residents being recent immigrants from the Beijing area. This results in the sub-region having the least amount of a sub-regional identity or legacy.

The PCI in the Manchurian sub-region is about $5000, which puts it in the top quarter among the sub-regions. The land is fertile, but the cold winter has made it unsuitable for rice agriculture in the past. The Qing Dynasty restricted the Han Chinese from settling in this sub-region. The Japanese developed Manchuria as a heavy industry zone. The Russians in 1945 took much of the industrial equipment from Manchuria and despite the PRC's efforts at maintaining the industrial base in Manchuria, it is now commonly called the Rust Belt of China.

However, the southern most province of the sub-region, the Liaoning province, has benefited the most from its location on the Bohai Sea, integrating itself in the bustling export oriented industry of Zhongyuan ports of Qingdao and Tianjin.

Geographic characteristics

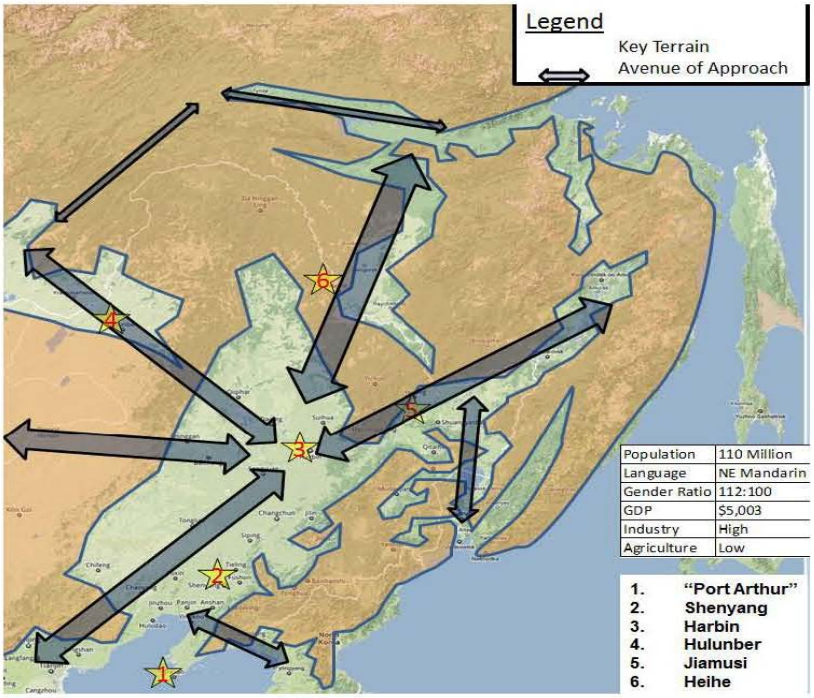


Figure 64. The Strategic Terrain of Manchuria
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

Since the opening of Manchuria by the Qing to both the Hans and foreign nations, the most significant development was the construction of the South Manchurian Railway by Russia. Ceded to Japan following the Russo-Japanese War, the railway connected Trans-Baikal to Vladivostok via Harbin and Hulunber (Key terrains 3 and 4 in figure 64). As Vladivostok was the main seaport for Russia in the Far East, this railway represented the Russian desire to dominate Manchuria by seizing Port Arthur in the Liaodong Peninsula, as well as attaining Wonsan in Northern Korea.

Following the loss of the railway to Japan, Russia built another railway going around the northern boundary of Manchuria all the way to Vladivostok. However, since

this added considerable amount of time to travel, the expediency of the South Manchurian Railway was never forgotten. Following the August offensive in 1945, the Russians seized the railway again, to include the port of Lushun, the original Port Arthur of the Russian Far East. Although ceded to China in 1950 after five years of occupation, the port of Vladivostok became the seat of the Soviet Far East Fleet, to confront the US Seventh Fleet throughout the Cold War. The Russian invasion route of 1945, see figure 71, shows the rail system as well as the invasion corridors.

Figure 65. USSR Invasion Routes through Manchuria, Aug, 1945
Source: http://maps.thefullwiki.org/Soviet_invasion_of_Manchuria_(1945), http://rkka.ru/maps/tv25.gif (accessed 27 August 2011).

The melting ice cap and the thawing of East Siberia present an opportunity to develop more seaports in the sub-region. The seaport of Magadan, north of Manchuria in

the Sea of Okhotsk is a potential center for renewed maritime access point for the Russian Far East. As such, the importance of a Manchurian railway is perhaps less. The problem of incompatibility between the wide gauge Russian railway and the narrow gauge Chinese railway is another issue.

Historically, no state has occupied all of Manchuria without invading the Zhongyuan, dating back to the Jin Dynasty. As such, China considers Manchuria as a strategic core, not a periphery. Pushing over 100 million people into the sub-region, its Liaoning peninsula is now an integrated member of the Bohai Bay export oriented industry. Manchuria's people speak a dialect that is very similar to the Putonghua, making the sub-region an extension of the Zhongyuan in many respects. There is a trend of ethnic Chinese crossing over to the Russian side to establish small businesses and keep families there. This trend, combined with the continuing exodus of ethnic European Russians form the sub-region, may result in the eventual domination of the Russian Far East by ethnic Chinese immigrants in the next 100 years.

Critical Capability:

1. Allows Russia access to ice free port.
2. A traffic hub, with access to Zhongyuan, Korea, Trans-Baikal, and the Russian Far East.
3. Industrial infrastructure with immense potential.
4. Liaoning provides integration with the other sub-regions around the Bohai Bay, creating an autarkic sub-region of strong economy.

Critical Vulnerability:

1. Hard to defend form a northern invasion, per 1945, as the sub-region is essentially a basin, with high ground all around it.

Bottom line: The Manchurian sub-region is a crucial strategic zone that must be defended for Chinese territorial integrity. Having been dominated by Japan and Russia in the last 100 years, the Chinese have preempted any future attempts at foreign domination by filling it with 110 million ethnic Hans from the Zhongyuan. This same population is spilling over into the Russian Far East, potentially taking advantage of the new land opening up due to global warming. This can be a source of major friction or cooperation with Russia.

Peripheral Sub-regions of East Asia

Mongolia: The Great Khan's Playground

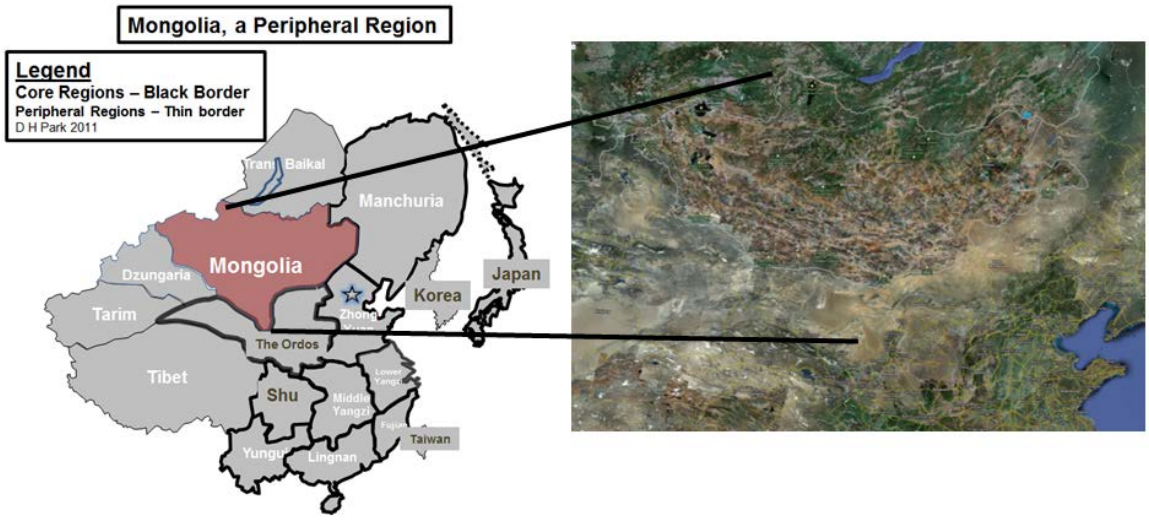


Figure 66. Mongolia: The Great Khan's Playground
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

The era of the steppe horseman dominating the Eurasian Heartland is over. However, the land of Mongolia now takes on a new importance, as the hub of rail transportation between China and Russia. Otherwise barren, its central location between the two major powers of Asia offers Mongolia much opportunity.

The Mongolian sub-regional population is about 8 million. This includes only 2.7 million from the nation of Mongolia. The rest are the Ningxia province and portions of inner Mongolia of China. The sub-regional gender ratio for children under the age of four in the Mongolian sub-region is far below that in East Asia. There are about 102 boys for 100 girls in the Mongolian sub-region. The Mongolian people speak the Mongol language, which is from the Altaic family of languages, of which Korean, Japanese, and Turkish, are members. This family of languages has nothing in common with the Sino-Tibetan language group.

The PCI in the Mongolian sub-region is about $4000, which puts it in the top quarter among the sub-regions. The nation of Mongolia has a PCI of $3200, which is quite competitive with any provinces of China. The Chinese province of Inner Mongolia, which this study divides between Zhongyuan, the Ordos, and Manchuria, has a PCI per capita of over $6000. The relative wealth of the inhabitants of inner Mongolia drove Dr. Skinner to include them within the core sub-regions. The Ningxia province, some of which is included in the Mongolian sub-region for this study, has a PCI of $3800.

Geographic characteristics

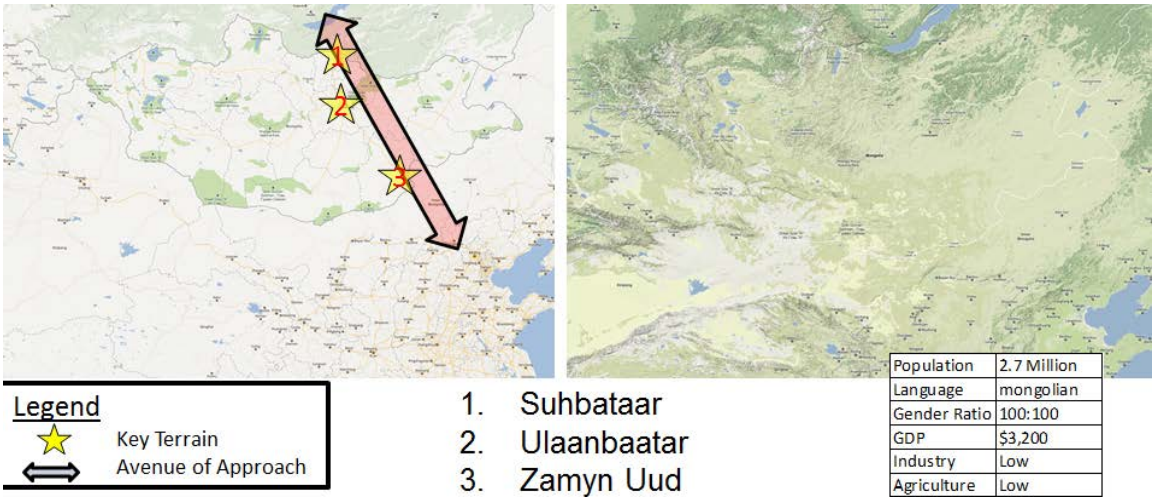


Figure 67. The Strategic Terrain of Mongolia
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The Mongolian sub-region is a collection of dry steppe, loess plateau, and steppe. It has traditionally supported the tribal and nomadic herders of the north. Throughout history, various peoples have risen out of this sub-region and left, mostly using the Gansu corridor. They include the Huns, the Turks, the Mongols, and the Khitans. Some of these groups migrated back and forth throughout history, affecting many civilizations and cultures in the process. The climate and landform of Mongolia and its small population has prevented Mongolia from industrializing. It remains an industrial and economic backwater within the sub-region.

The Mongolians have developed a railway system connecting Trans-Baikal with Beijing. This can potentially cut the total transportation time from Moscow to Beijing by a full day, from its current seven days to six days, bypassing all of Manchuria. The main

problem is that the Mongolian rail system, built by the Russians uses a wide gauge rail, while the Chinese system is of a narrow gauge construction.

With the increasing importance of the thawing of East Siberia, and the rising level of cooperation between China and Russia, Mongolia stands to gain much, if it leverages the two powers adroitly. Already an observing member in the Shanghai Cooperation Organization, Mongolia has much potential to benefit from the cooperation within the Heartland.

Critical Capability:

1. Connects the two major powers of Eurasian Heartland via rail, pipelines, and highways.
2. Ability to balance China and Russia against each other for its own benefit.

Critical Vulnerability:

1. Impossible to defend due to lack of vegetation. Open to air attacks, and combined arms attacks, resulting in foreign domination since the 19th century.
2. Manchuria and Dzungaria continues to offer alternatives to Russia and China for its line of communication and transportation.

Bottom line: The undeveloped sub-region of Mongolia can leverage its strategic location between Russia and China to develop itself as the hub of North Asia. Lacking in industry, it can develop a transportation network to rival Manchuria and Dzungaria-Gansu for it to succeed.

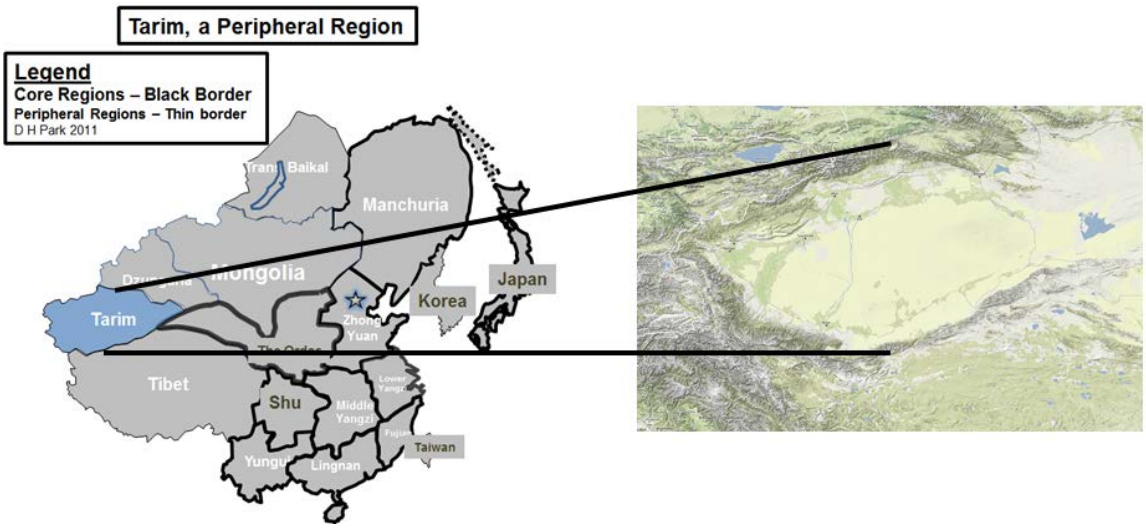


Figure 68. Tarim: The Old Silk Road
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

This Old Silk Road sub-region is increasingly irrelevant, as the permanent and overwhelming characteristics of its mountainous terrain prove impossible to overcome.

The Tarim sub-regional population is about 10 million. The sub-regional gender ratio for children under the age of four in the Tarim sub-region is average within East Asia, at 106 boys per 100 girls. The people of Tarim are about 55 percent Uyghurs who speak a Turkish Uyghur language. Han Chinese who speak the Zhongyuan dialect of Mandarin make up the next largest group, at about 40 percent of the population. There are many smaller Mongol or Turkish ethnic groups within the sub-region. Ethnic Han people dominate in the urban areas, while ethnic Kazakhs and Uighurs are prevalent in the rural areas, where they continue to practice the nomadic pastoral lifestyle.

The PCI in the Tarim sub-region is about $3500, which puts it in the top half among the sub-regions. Tarim benefits from its deposits of oil, natural gas, and other resources found in the area, which provides the basis for its sub-regional economy.

The Tarim sub-region is dominated by the Taklimakan Desert. It is an inland endorheic basin without drainage to an ocean. Its rivers are seasonal, emptying out to the seasonal lake, Lop Nor. It remains dry during much of the year. The oases along the North and South of the desert were used by caravans, making Tarim basin the center piece of the Silk Road connecting China with the Middle East.

Geographic characteristics

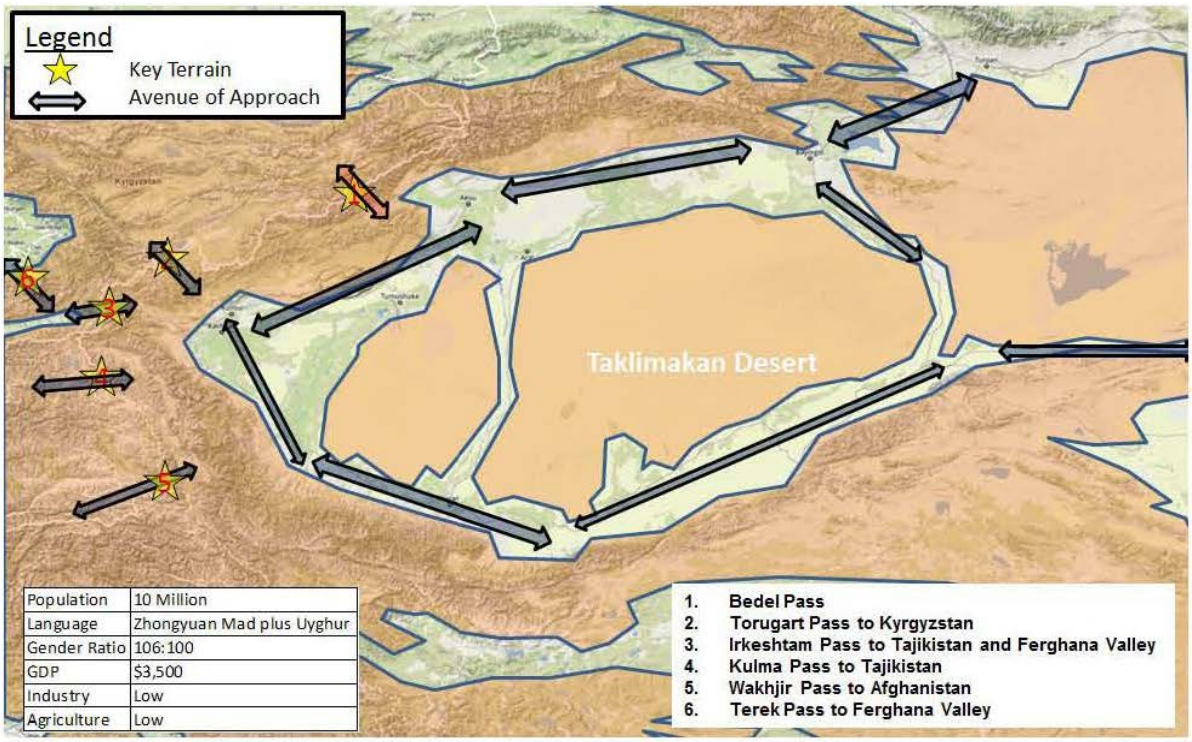


Figure 69. The Strategic Terrain of Tarim
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The difficulty of traversing the various passes given their mountainous terrain is further compounded by the fact that they are passable only during the summer months. This makes this sub-region secondary to Dzungaria in terms of its ability to connect East Asia with the West. Its main capability is providing a secondary road connection to western Tibet, through which China connects with Pakistan, its "all weather ally" in South Asia.

Critical Capability:

1. Provides China with strategic depth and ability to conduct nuclear testing.
2. Ability to store strategic nuclear weapons away from the population centers in the East.
3. Small scale trade with Central Asian states over the seasonal passes.
4. China does own the far side of the passes in many cases, allowing for limited strategic advantage in the sub-region.
5. Offers potential as a major tourist industry given its undeveloped nature and historical locations.

Critical Vulnerability:

1. Difficult to sustain from the east due to the length of the barren connector of Gansu Corridor.

Bottom line: The Tarim sub-region does not offer much in the way of major connection with Central Asia due to its insurmountable mountain ranges. Its best hope is to develop a tourist industry and continue to act as the strategic nuclear armory for China.

Tibet: The Source of all Rivers of East Asia

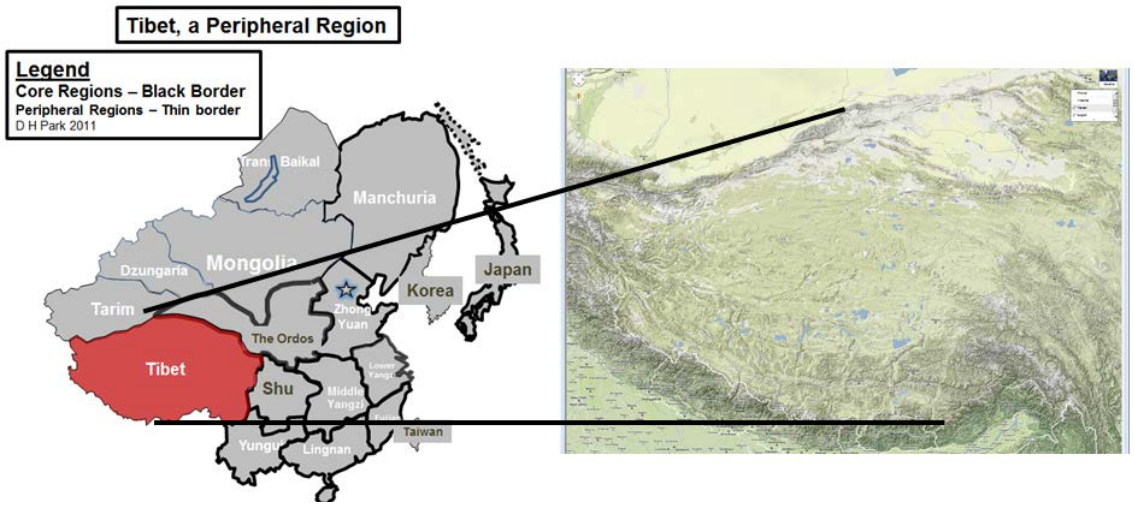


Figure 70. Tibet: The Source of all Rivers of East Asia
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

The sub-region of Tibet occupies the highest plateau in the world. As such it is arguably the most naturally fortified of all areas in the world. However, due to its high altitude the Chinese government has not been successful in flooding the area with ethnic Han people as it has in Manchuria and Xingjian. As such, the area remains too un-Sinicized for China to consider it as a strategic refuge, as it does with Shu or Fujian.

The Tibet sub-regional population is about 9 million. The sub-regional gender ratio for children under the age of four in the Tibet sub-region is average within East Asia, at 108 boys per 100 girls. The Tibetan people speak a language that is different from Mandarin. Their cultural background makes them very different as well. They are mostly Lama Buddhists, and have no Confucian or Taoist traditions. The sub-region has

enjoyed independence or *de facto* autonomy for the most of its history. For brief periods, the Tibetan people have dominated the Tarim and Dzungarian basins They have also periodically invaded the Yunnan and Sichuan sub-regions of China.

The PCI in the Tibet sub-region is about $3180, which puts it in the top half among the sub-regions. Tibet benefits from its deposits of oil, natural gas, and other resources found in the area, which provides the basis for its sub-regional economy.

Geographic characteristics

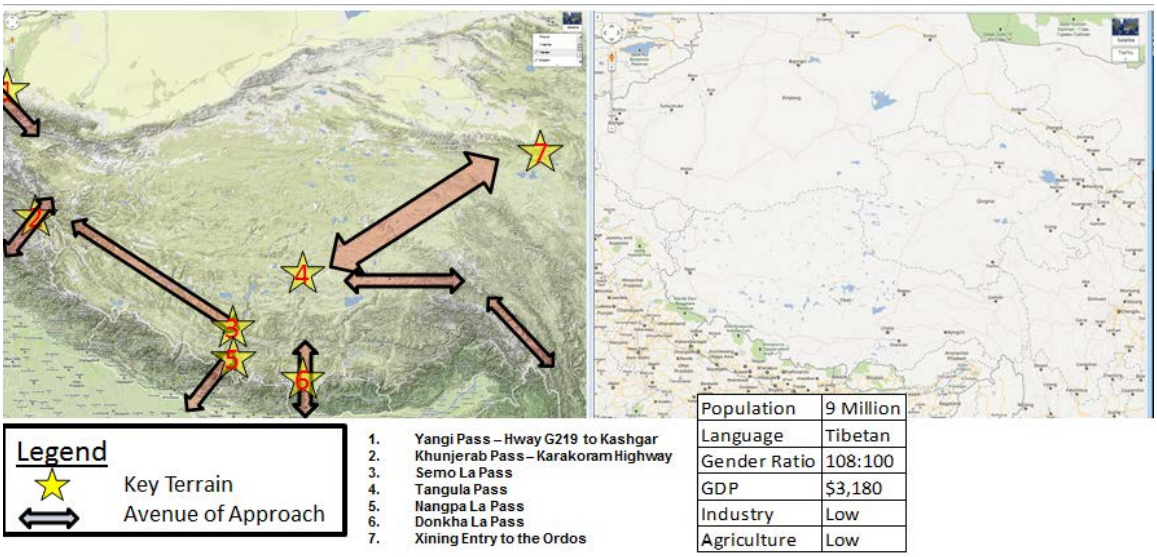


Figure 71. The Strategic Terrain of Tibet
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

The Tibet sub-region is dominated by the Tibetan plateau, containing numerous mountain ranges, to include the Himalayas. Within the plateau, rivers in the East, and lakes in the West dominate it. The North is a desert, with an inland drainage basin. Many rivers originate from Tibet, to include the Huanghe, the Yellow River, the Irrawaddy, the

Pearl River, the Ganges, the Indus, and the Mekong. The vast reserve of glacier provides the continuous supply of water for these rivers. However, there are recent evidences of the glacier system melting at a fast rate, potentially affecting the river water supply in the future. As mentioned in the Yungui section, to alleviate the water shortages in the Zhongyuan sub-region the Chinese government has built and plans to build additional dams in the sub-region to divert water to Zhongyuan. Combined with the glacial retreat, this will have large consequences for the nations of China, Vietnam, Laos, Cambodia, Thailand, Burma, Bangladesh, India, and Pakistan.

The road system within Tibet has developed over the recent years and it is now connected with Pakistan through the Khunjerab Pass. The Karakoram Highway is a seasonal highway but represents a strong statement of mutual alliance between China and Pakistan that has withstood the test of time.

Tibet has been an area of interest for India ever since the British administration. Its strategic geography of the highest terrain in the world, as well as its containing headwaters for 10 major rivers flowing throughout much of Asia makes it an area of strategic concern to India. Does India desire Tibet? A possible hint to the answer to that question is India's continued sheltering of Dalai Lama and the support for Tibetan independence movement.

Critical Capability:

1. Ability to control the water flow of the entire Southeast Asia as well as the Yangzi and the Huanghe.
2. Ability to provide strategic armory for the Chinese nuclear arsenal.
3. Connection to Pakistan.

Critical Vulnerability:

1. Difficult to sustain due to the harsh terrain.

2. A globally supported incipient independence movement by the Tibetan people.

Bottom line: The Tibet sub-region's main importance is due to it containing the headwaters of all the major rivers of East Asia, except for the Liao, the Huaihe, and the Amur. This characteristic makes it of critical importance to the Chinese government. Its decision to build up to 140 dams in the sub-region will have lasting consequences for all of East Asia, as well as South and Southeast Asia. For the same reasons, it remains a strategic concern to India, which has coveted Tibet since during the British colonial occupation.

Geographic Pivots of East Asia

Dzungaria: The Gateway to Europe

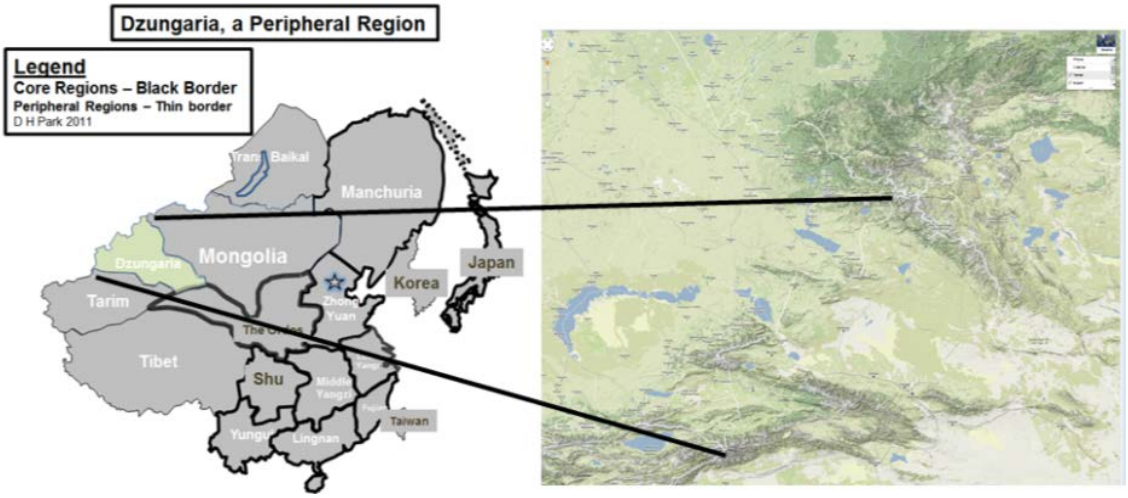


Figure 72. Dzungaria: The Gateway to Europe
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

Dzungaria is the traditional gateway between Europe and East Asia. The mountain ranges that divide the Caucasian people from the Mongoloid people have a natural opening at the Dzungarian gate. It is through this sub-region that the two races have traditionally interacted.

The Dzungarian sub-regional population is about 12 million. The sub-regional gender ratio for children under the age of four in the Dzungarian sub-region is average within East Asia, at 106 boys per 100 girls. The people of Dzungaria are about 50 percent Han Chinese who speak the Lanyin and Liaoliao dialects of Mandarin from Zhongyuan. The next largest group is Uyghur, who constitute about 30 percent of the population. They speak Uyghur, a Turkish language. There are many Mongol or Turkish ethnic groups within the sub-region. Ethnic Han people dominate in the urban areas of Urumqi, while ethnic Kazakhs and Uighurs are prevalent in the rural areas, where they continue to practice the nomadic pastoral lifestyle.

The PCI in the Dzungarian sub-region is about $3700, which puts it in the top half among the sub-regions. Dzungaria benefits from rail and pipeline system connecting Kazakhstan to core sub-regions of China. Deposits of oil, natural gas, and other resources are found in the area, and provide the basis for its sub-regional economy.

The Dzungarian sub-region is a collection of dry steppe, loess plateau, and steppe. It has traditionally supported the tribal and nomadic herders of the North. Throughout history, various peoples have risen out of this sub-region and left, mostly using the Dzungarian Gate. They include the Huns, the Turks, the Mongols, and the Khitans. Some of these groups migrated back and forth throughout history, affecting many civilizations

and cultures in the process. The climate and landform of Dzungaria and its small population has prevented Dzungaria from industrializing.

Geographic characteristics

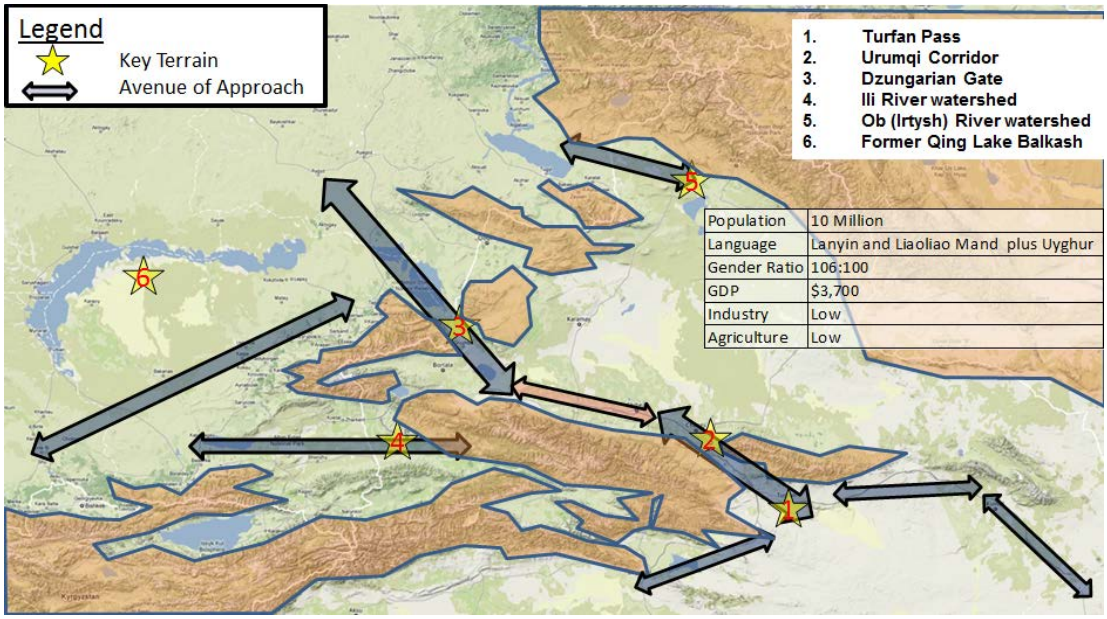


Figure 73. The Strategic Terrain of Dzungaria
Source: Created by author using Microsoft PowerPoint overlayed on google maps at http://maps.google.com (accessed 2 October 2011).

Dzungaria as a whole is an underdeveloped steppe, with low potential for industrialization. Its greatest strength lies in its location, as the connector between East Asia and Central Asia, which makes it a geopolitical pivot. The sub-region's transportation capability completely dwarfs that of Tarim to its South. Tarim's traditional Silk Road passes were sufficient to support camel caravans, but they cannot support major railroads or highways. The Dzungarian Gate described in figure 74 can support railways, highways, and pipelines with ease.

The picture in figure 74 defines key terrain as a geopolitical concept. This is the Dzungarian Gate, at the northwestern edge of the sub-region of Dzungaria. This is the only natural gap in the continuous wall of impassable mountain range from Manchuria to Tibet that separates East Asia from the rest of the world. This is where the Huns, the Kushans, the Avars, the Mongols, and the Turks exited East Asia to conquer their living space in the Middle East and Europe since 2000 years ago. Since the advent of the railroad and the neutralization of the composite bow, relegating the steppe bowman irrelevant, the Dzungarian Gate has remained forgotten. But right now the Chinese are building railroads, highways, and oil and natural gas pipelines, to fuel their hungry multinational civilization. This is a true key terrain.

Figure 74. The Dzungarian Gate
Source: Christoph Hormann, "The Dzungarian Gate 2," *Views of the Earth*, http://earth.imagico.de/view.php?site=dsungarei2 (accessed 30 September 2011).

The geospatial analysis performed using google earth shows the respective distance and direction of the three rival railways systems connecting Beijing to Moscow. In addition to the distance and efficiency, one must take into account, the ownership of the land through which the railway travels through. The two northernmost railways pass through Russia. The southern-most railway, passes mostly through China and Kazhakstan, through Dzungaria. As such, distance-wise, using the Russian Trans Siberian Railway, and then the Mongolian shortcut is the shortest route. Russians may prefer this, as Mongolia is still pro-Russia more than it is pro-China. The Mongolian usage of the the wide-gauge rail, common with Russia, reinforces this analysis.

Hoevwer, from the Chinese side, using the Dzungarian Railway allows it more control along the route. It also travels through the most level terrain among the three competing railways. It also gives them further leverage on Kazhakstan, thereby increasing its overall influence over Central Asia. As you can see below, due to the Mongolian short cute, the importance of the Manchurian railways have been reduced. They still do represent a significant short cut for Russian internal traffic towards Vladivostok, the Headquarters of the Russian Far Eastern Fleet.

Figure 75. The Comparison among the Three Trans Eurasian Railways
Source: Created by author on Google Earth, using public data, with PowerPoint overlay.

Critical Capability:

1. Connects the two major powers of Eurasian Heartland via rail, pipelines and highways.
2. Controls the river origins for the Irtysh and the Illi, affecting Kazakhstan and much of Siberia.
3. Easy to defend from invasions from the west.

Critical Vulnerability:

1. Russia may prefer the Mongolian route due to it being within Russia, as opposed to Kazakhstan.
2. Difficult to sustain from the east due to the length of the barren connector of Gansu Corridor.
3. Manchuria and Mongolia offer alternatives to Russia and China for its line of communication and transportation.

Bottom line: The Dzungarian sub-region is a number one candidate to become the true connector between China and Russia through Central Asia. This pathway offers a clear alternative to the maritime passageway for China's oil through the contested areas of the Persian Gulf, the Indian Ocean, and the South China Sea. It would be in China's best interest to develop this sub-region as an alternate route of pipelines for fuel to sustain its power hungry nation. This explains the incorporation of all of the Central Asian Republics in the Shanghai Cooperation Organization as full members. Dzungaria is the new pivot within the Heartland that unites China and Russia in the classical Mackinder fashion.

Korea: The High Speed Avenue of Approach between the Continent and Japan

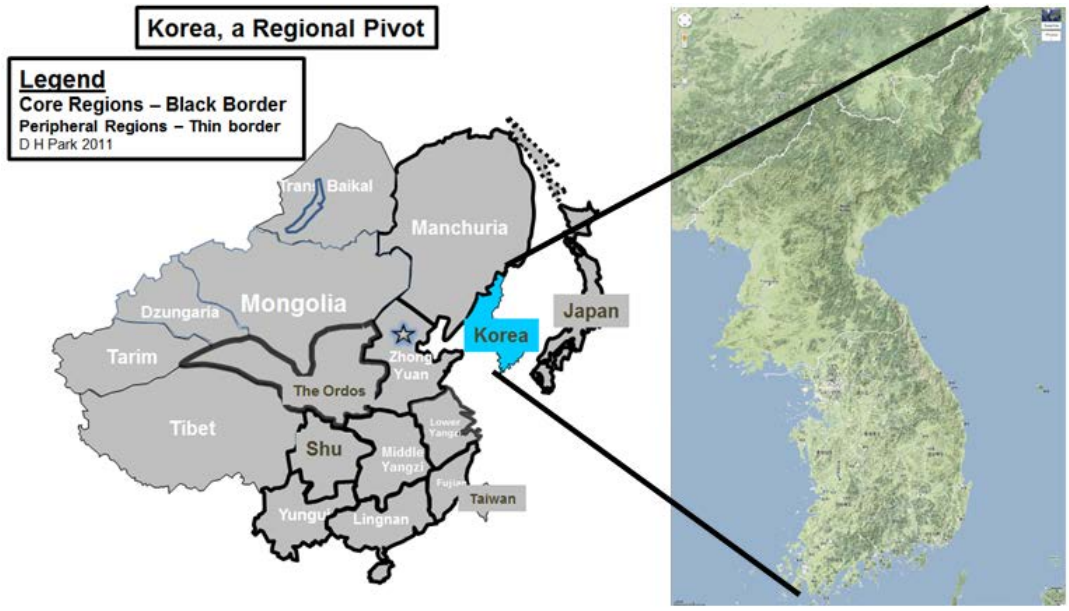


Figure 76. Korea: The High Speed Avenue of Approach to the Continent
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: google maps, http://maps.google.com (accessed 15 September 2011).

The Korean peninsula is the traditional high-speed avenue of approach between continental East Asia and its maritime peripheries. Its lack of serious natural obstacles along its principal avenue of approach makes it a natural highway for any invading force. Divided between the two governments of South and North Korea, it is in a state of equilibrium.

The population for the Korean peninsula sub-region is about 72 million, 49 million in South Korea and 23 million in North Korea. The sub-regional gender ratio for children under the age of four Korean peninsula is low within East Asia, at 101 boys to 100 girls. Koreans speak the Korean language, related to Japanese and Turkish, but not to Chinese.

The PCI in the Korean peninsula sub-region is about $20,000 for the South and $1200 for the North. The peninsula has no natural resources. Its sole value is from its geography and the resilience of its people. The main characteristic of the peninsula is that it is currently divided between the Republic of Korea in the South and the Democratic Republic of Korea in the North.

Geographic characteristics

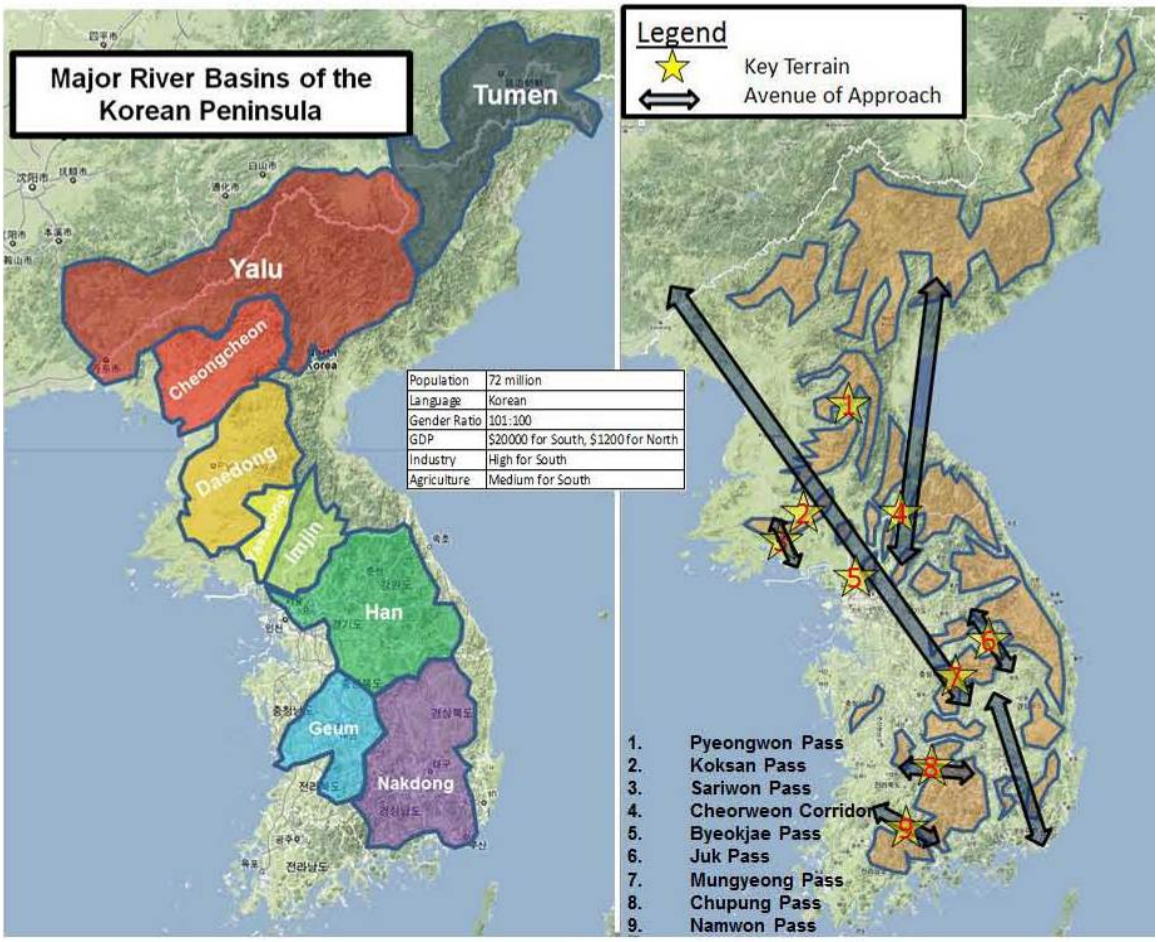


Figure 77. Basic Strategic Terrain Analysis of the Korean Peninsula
Source: Created by author using Microsoft PowerPoint on base map from google maps at http://maps.google.com (accessed 22 October 2011).

The main avenue of approach from Euiju on the border with China in the Northwest to Busan in the Southeast connects through the Koksan Pass, the Byeokje Pass, and the Mungyeong Pass. This high-speed avenue of approach is now more difficult to pass in the South due to the urban sprawl. However, in the northern half, they remain

as sparsely developed as ever, still retaining the characteristics of the traditional invasion corridor.

Figure 78. The View South into North Korea from Manchuria
Source: Google Earth (accessed 22 October 2011).

The 3-D map in figure 78, shows the invasion corridor from the Chinese border looking towards Pyongyang. Aside from small fortified towns in the hills, the Koreans have not been able to stop any serious invasions form the continent. The three occasions in which large Chinese and Khitan armies have been stopped were along the Chongchon River, which was the site of a 1950 battle between the Chinese and UN forces. However, this river has silted up so much since 1400 years ago when it stopped a million-man Chinese Army, that it no longer presents a natural defense.

The invasion corridors north of Seoul, shown in figure 79, are somewhat neutralized, due to the urban development which has filled the valleys with apartment buildings, taller than 20 stories at times. This results in defense superiority for South Korea in the event of a North Korean invasion.

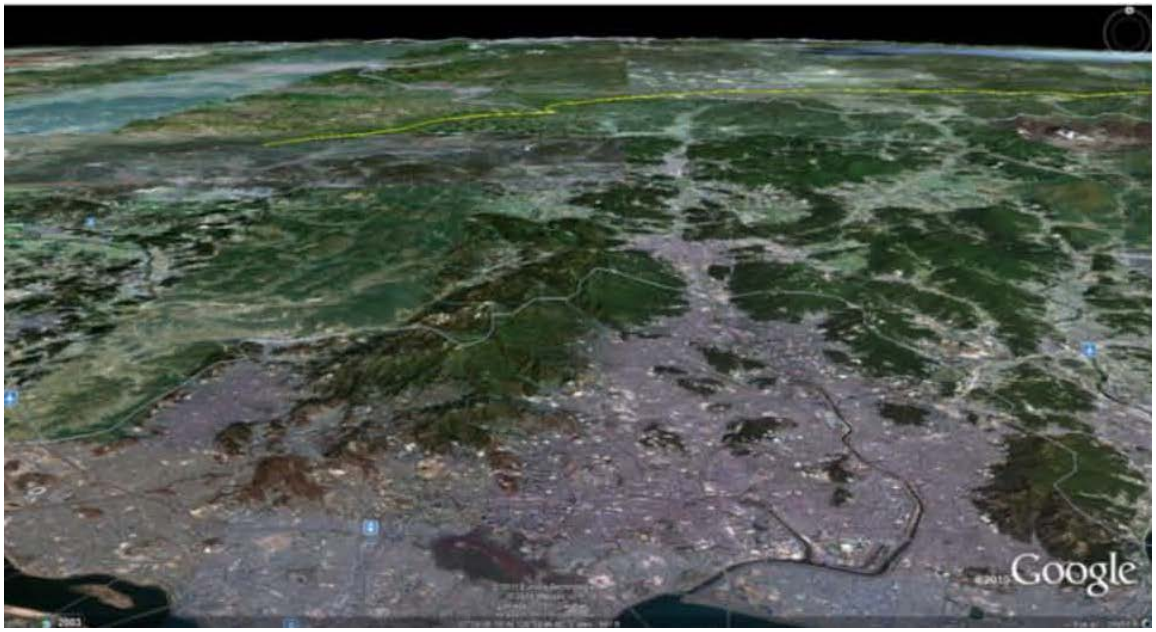


Figure 79. 3D Imagery of Seoul Korea, looking northward up the Uijongbu corridor *Source*: Google Earth (accessed 21 October 2011). The yellow line in the background is the DMZ. The Uijongbu corridor leads directly north, or south.

Simultaneously, for a South Korean counterattack into the North, the invasion corridors remain as underdeveloped as the sub-region North of Pyongyang, giving the South Koreans a slight advantage.

The following three maps in figures 86 to 89 depict the invasion routes taken by the Chinese in 645, the Japanese in 1592 and 1894, and by the Americans in 1950. The enduring effects of geography are plain for all to see. The same routes are used not because the Generals are replicating the strategy and tactics. The same routes are used,

because the mountains and the valleys remain constant, and they canalize all who enter this geopolitical pivot.

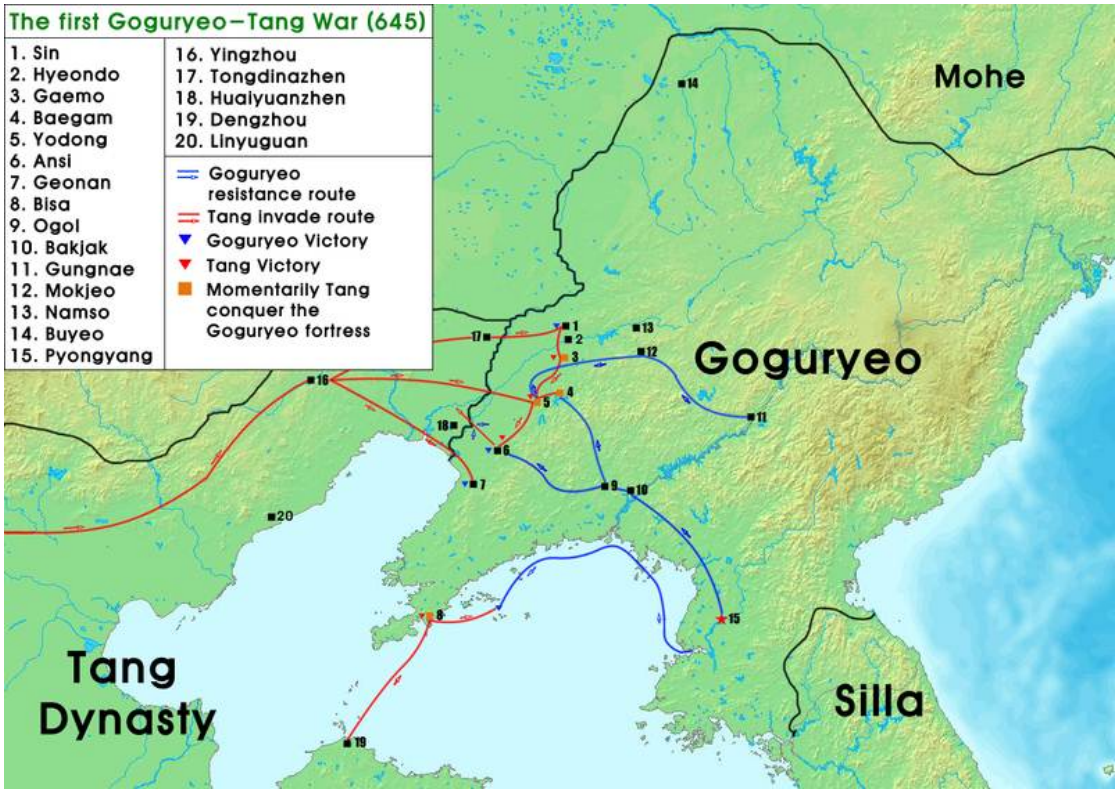


Figure 80. The Tang Invasion of Goguryeo, 645
Source: Wwikipedia, "First Goguryeo–Tang War," http://en.wikipedia.org/wiki/First_Goguryeo%E2%80%93Tang_War (accessed 21 November 2011).

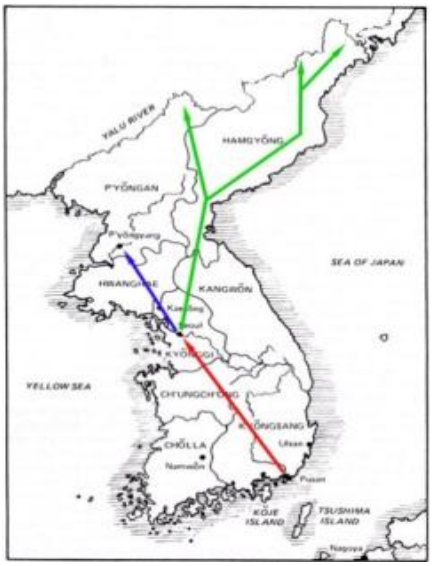


Figure 81. The Invasion Routes of Japan, 1592
Source: Cesare Polrnghi, "Hideyoshi and Korea," 25 April 2003, http://www.samurai-archives.com/hak.html (accessed 25 May 2011).

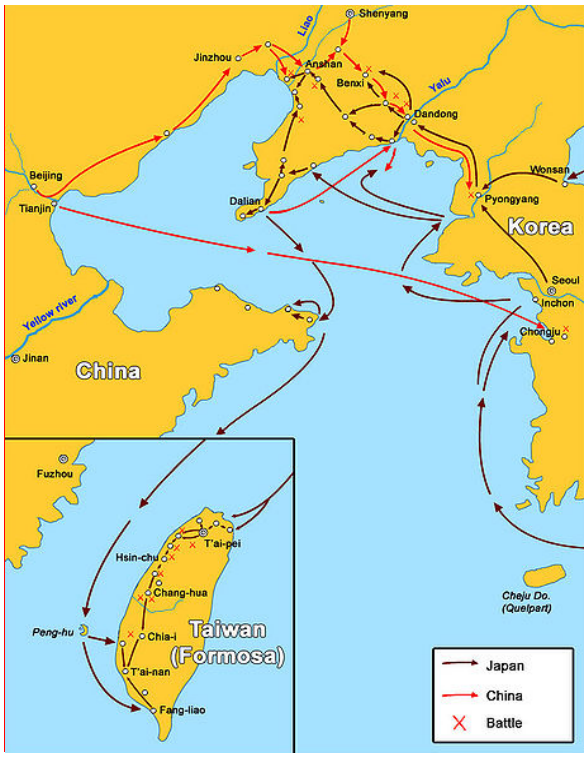


Figure 82. The Japanese Route of Invasion through Korea to China, 1894
Source: Wikipedia, "First Sino-Japanese War," http://en.wikipedia.org/wiki/First_Sino-Japanese_War (accessed 25 May 2011).

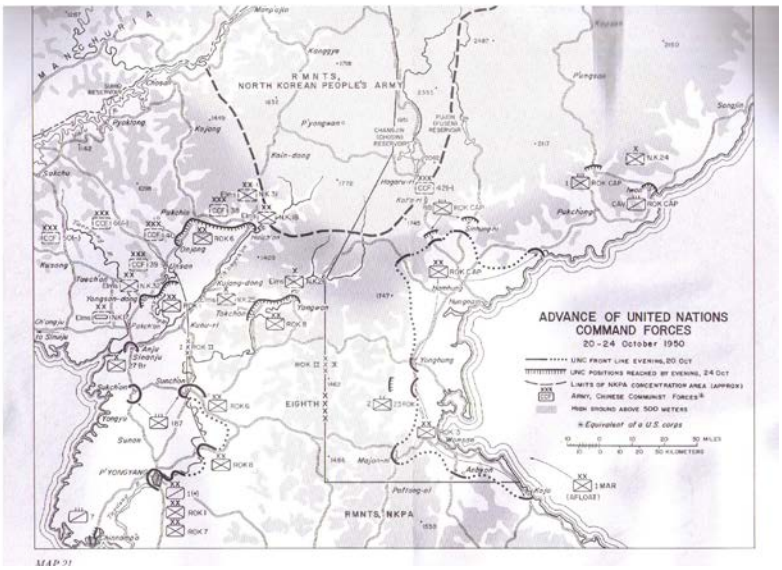


Figure 83. The Routes of Advance by UN Troops in North Korea, 1950
Source: Roy E. Appleman, *South to the Naktong, North to the Yalu* (Washington, DC: Center of Military History), 665.

The invading troops use the avenues of approach depicted in figure 77. The near straight line route connecting Busan to Euiju on the Chinese border, which also closely parallels the railway and the highway, is the traditional high speed avenue of approcach. This was the cause of massive seesaw offensives and counteroffensives in 1950 between the UN forces and the Communist forces of North Korea and the PRC. Only when both sides dug in, and prepared deliberate fortified positions on hilltops, did the avenues of approach finally lose their effect.

The net effect of all these is that Korea is a highway for invading armies. Both China and Japan sees it as an immediate threat, if the other side stations any troops on the peninsula. This was the cause for the Chinese decision to fight the US in 1950, despite the American position as a superpower at the time. The occupation of the Korean peninsula is that serious of a statement, within the East Asian community.

Critical Capability:

1. Ability to rapidly transport forces from one end of the peninsula to the other, from Manchuria to Japan and vice versa.
2. Ability to connect to the Trans-Siberian railroad at Vladivostok as the eastern anchor of the Eurasian transportation network.
3. Ability to interdict or threaten Japan and Manchuria, as well as the East China Sea, and the Sea of Japan.
4. Well educated work force of 72 million people in South Korea to man the high-tech industry present in the South.
5. Ability to resist invaders in the long run by manning the mountains interior of the peninsula.

Critical Vulnerability:

1. Difficult to defend along the avenues of approach.
2. No natural resources to achieve autarky.
3. tough to defend Seoul from a maritime assault from the sea via Incheon.

Bottom line: Korea remains the dagger pointed at the heart of Japan. Critical to the sub-region will be who gets to dominate the unified peninsula in the near future. China does not want to see the US dominate the peninsula, while the US and Japan does not want the Chinese to dominate the peninsula. This decision by the people of united Korea will have a significant sub-region wide impact for the next 100 years.

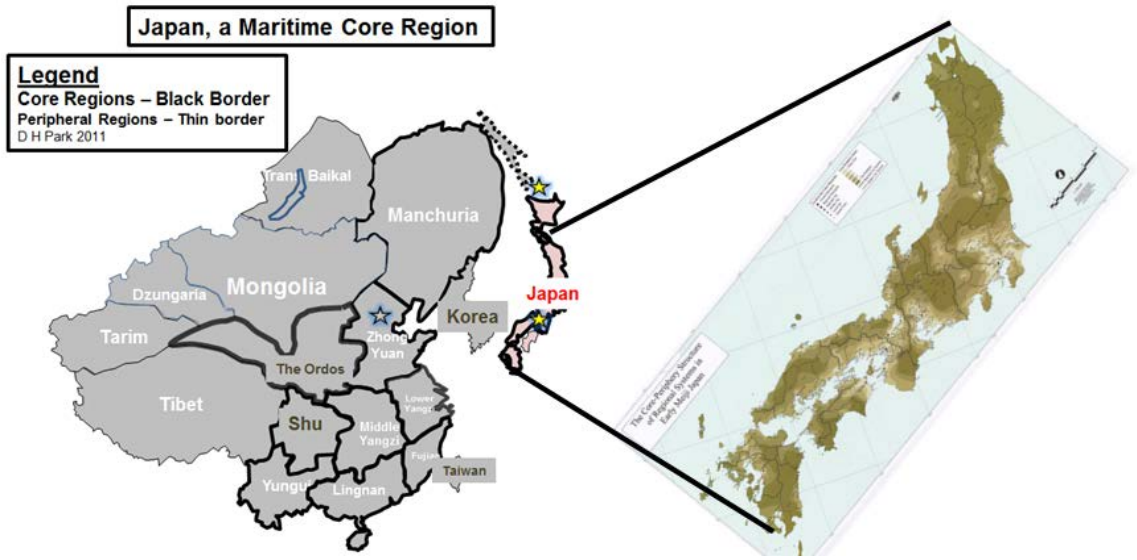


Figure 84. Japan: The Island Barricade Blocking in China from the Pacific Ocean
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 17 September 2011).

The archipelago of Japan is by far the riches sub-region of all of East Asia. Its export oriented economy is without equal in the entire world relative to size and population. The population for the Japanese archipelago is about 128 million. The sub-regional gender ratio for children under the age of four in the Japanese archipelago is low within East Asia, at 101 boys to 100 girls. Japanese speak the Japanese language, related to Korean and Turkish, but not to Chinese.

The PCI for Japanese archipelago is about $33,000, the highest in the entire East Asia. The Japanese archipelago has little to no natural resources. Its sole value is from its

geography and the resilience of its higihly educated and disciplined people, to be discussed below.

Geographic characteristics

Figure 85. Major River Drainage Basins of the Japanese Archipelago
Source: Terrain map of East Asia, http://maps.google.com (accessed 26 October 2011). River drainages identified from the topographic map by author.

Figure 86. Major River Basins Matching the Macroregions of Dr. Skinner
Source: Base map from google maps, https://maps.google.com (accessed 14 June 2011). Overlaid map University of Washington Libraries, G. William Skinner Map Collection, http://content.lib.washington.edu/skinnerweb/ (accessed 19 September 2011).

Japan's mountainous terrain results in very short rivers, with numerous river basins as noted in figures 85 and 86. This coincides well with the human terrain analysis of Dr. Skinner, which further corroborates the idea that civilizations thrive in river basins. The main sub-regions of Japan are centered on the Nara-Kyoto-Osaka sub-region in the Kansai Plain, and in the Kanto Plain, where modern Tokyo is situated. The map in figure 87 is a 3-D rendering of the Kanto Plain, with the imperial palace in the center. These sub-regions were united quite late in history given the rough mountainous terrain of Japan. Only in 1600, following the battle of Sekigahara, did Japan unite for the last time. However, its landside key terrain is less important than its maritime terrain, as Japan has successfully overcome its sub-regional differences to become one of the most unified and culturally homogeneous peoples in the world since 1600.

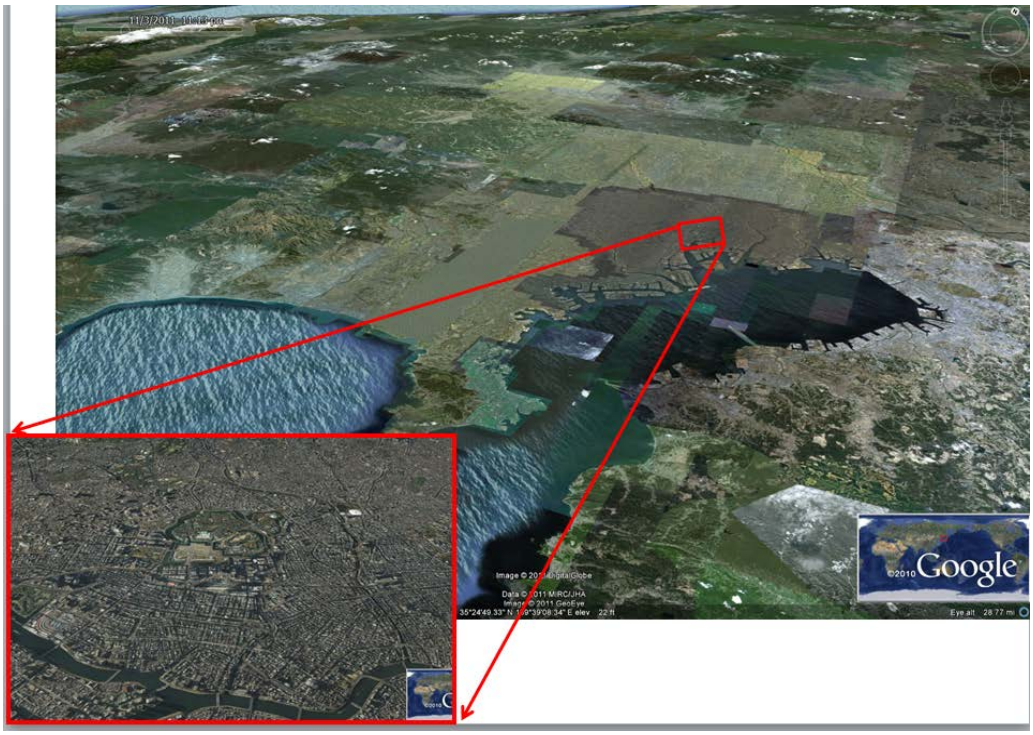


Figure 87. Kanto River Basin (Tokyo)with Imperial Palace Magnified
Source: Google Earth with Microsoft PowerPoint overlay by the author.

The Japanese people achieved a level of economic success unmatched outside the Western world in the 20th century. Despite this success, due to their aggressive colonial policy in from 1894 to 1945, it has no East Asian friend. Its strongest ally is the United States. Currently, as the East Asian peripheral states of South Korea and Taiwan[62] are also aligned with the US, it groups Japan among the pro-US nations of East Asia. This alliance may provide a veneer of cooperation between Japan and other East Asian peripheral nations, but how much actual amity exists between Japan and Korea, Taiwan, and the Philipines is another matter. There is a high anecdotally observable evidence of anti-Japanese feelings throughout all of East Asia, based on Japan's actions between 1894 and 1945 against all of its neighbors.

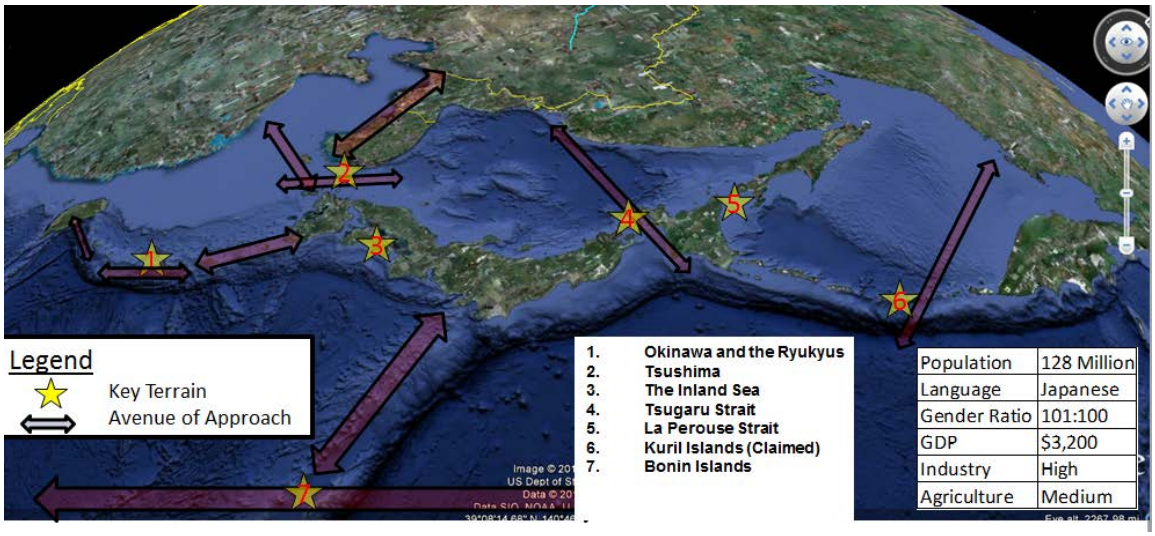


Figure 88. Maritime Key Terrains of Japan
Source: Google Earth with Microsoft PowerPoint overlay by the author.

[62]Not officially aligned, but through the Taiwan Relations act of 1979, US is obligated to provide Taiwan with "arms of defensive character," etc.

Japan's identity as an island nation defines its strategic terrain. Its long chain of islands stretching from Hokkaido, adjacent to the Kuril Islands and Sakhalin, all the way to the Ryukyus, adjacent to Taiwan provides it a *de facto* naval screen against any Chinese effort at breaking out into the Pacific Ocean. This limits China's freedom of movement in the Pacific to South China Sea. The map in figure 88 shows the maritime key terrains of Japan.

The Ryukyu Islands, with Okinawa as its main island is a continuation of the island barricade that starts with Taiwan and runs northeastward toward the main islands of Japan. Throughout the Cold War, the US Seventh Fleet, along with the Japanese Maritime Self Defense Force, worked to box in the Soviet Far Eastern Fleet at Vladivostok. The very geographic shape of Japan allowed it. The Bonin Islands connecting to the American Pacific possession of Palau provided a second ring of islands to contain the Soviet Navy.

The climate of the sub-region with the sea turning into ice each winter made the blockade possible during the Cold War years. However, with the thawing effects of global warming, the Russian Navy in the future will likely be able to flank the Japanese island barricade through the Kuril Islands, as the Sea of Okhotsk will probably remain ice free year round before the next 100 years are over. This presents a strategic challenge to Japan, as well as its main ally, the US. Through the Kuril Islands, the Heartland power of Russia, will finally have ice free ports and open access to the Pacific Ocean.

Critical Capability:

1. Ability to contain Russian and Chinese naval forces.

2. Ability to secure the western Pacific for US interests.

3. A highly educated, disciplined and resilient work force of 128 million people, with a decreasing population, which mitigates the accumulated negative effects of earlier population growth of the 20th century.
4. The third largest economy in the world, and the largest economy than any three sub-regional economies combined in East Asia, providing the fiscal capability to match any military buld up in the region.
5. Possesses enough nuclear reactors to match any nuclear arsenal in the world in size and technology if it resolves to gain a nuclear deterrence capability. Its inland sea allows a nuclear submarine fleet to roam undetected, within an enclosed body of water protected by its main islands.

Critical Vulnerability:

1. With global warming, Japan will be outflanked in the north by the Russian Okhotsk fleet.
2. American economic decline could leave Japan alone without an ally or protector in face of the resurgent Heartland powers of China and Russia.
3. Sitting on top of a continental fault line, Japan could be subjected to the worst effects of global warming in the forms of tsunamis, earthquakes and volcanic activity.
4. Its lack of strategic depth in terms of land mass makes it a tempting target for a decisive nuclear first strike.
5. Its aging population with a decreasing workforce already burdened with a historically highest level of public debt could mean a downwardly spiraling economy and decades of continued fiscal slump for the island nation.

Bottom line: The future for Japan does not look too bright. Its economic probl;ems are exacerbated by an aging work force. It is losing its technological edge to Kroea and China, whose workforce remains hungry to surpass Japan in global economic indicators. The Japanese archipelago will also likely be outflanked in the north by the Russian navy due to global warming. If Taiwan is absorbed by China, this will present a situation of strategic double envelopment for Japan. Japan must quickly learn to be cooperative a member of the East Asian regional system to sustain a positive place for itself in the future of East Asia.

Taiwan: A Maritime Bastion

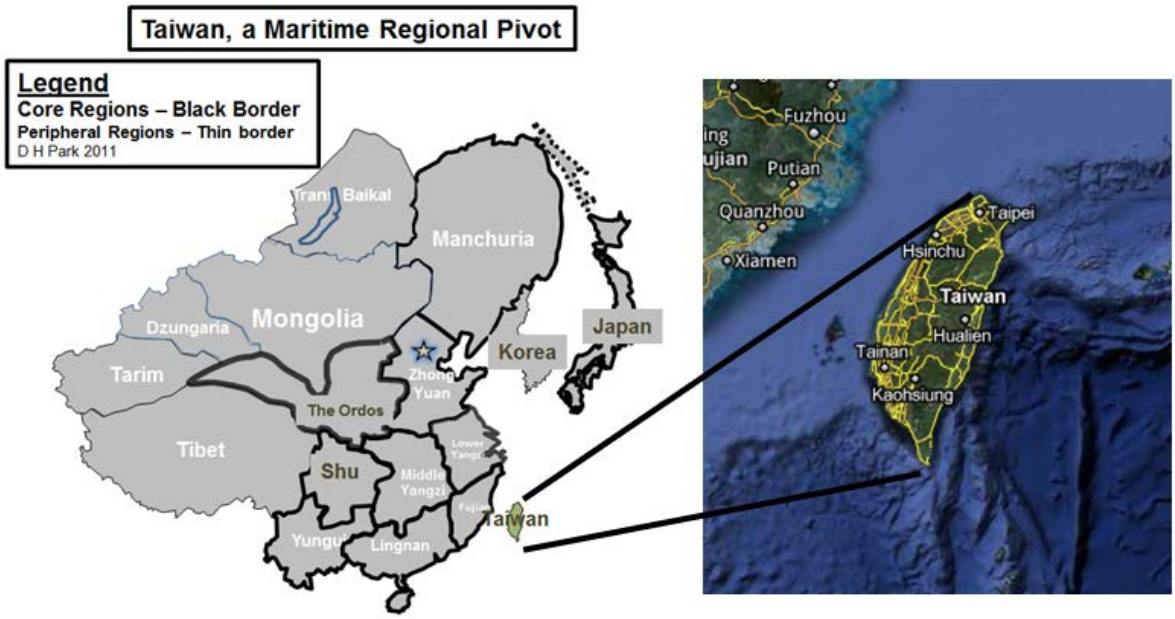


Figure 89. Taiwan: A Maritime Bastion
Source: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: Google Earth (accessed 30 September 2011).

The island of Taiwan is a small but significant piece of land situated at a crucial location. The only large offshore land mass opposite the Chinese continent, it can check all maritime activities of mainland China. Significant for this sub-region is that it is the richest sub-region of China, despite never being included in such a tally due to its *de facto* independent political status. Its $18,000 PCI per capita is larger than that of Lower Yangzi, the richest of the Chinese core sub-regions.

Geographic characteristics

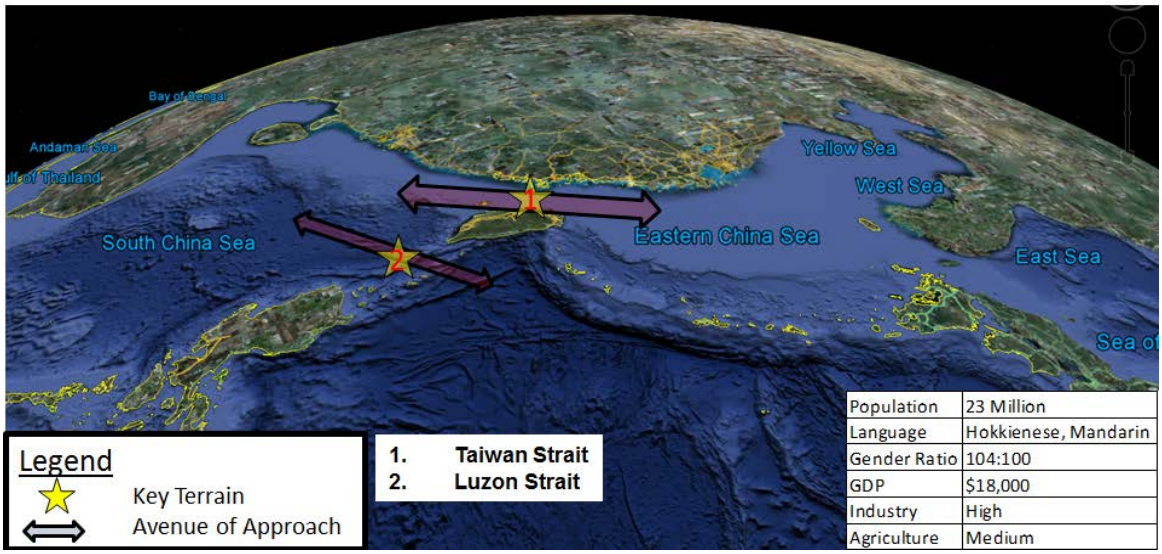


Figure 90. Taiwan: the Geopolitical Pivot of East China Sea
Source: Google Earth with author's PowerPoint overlay.

The island of Taiwan allows the occupier to command the Taiwan Strait and the Luzon Strait, which are the main arteries for oil imports for the crucial economic sub-regions of Japan, Korea, the Lower Yangzi, Zhongyuan and Manchuria. The map in figure 91 shows the same situation from the Chinese perspective. Although Taiwan does not exercise it, it has the capability to intercept these maritime activities, which can be of

concern to Beijing. Its population, which is a mixture of Putonghua speaking Han, and Hokkienese Yue immigrants from Fujian, as well as Austronesian natives of Taiwan, gives it a distinct character.

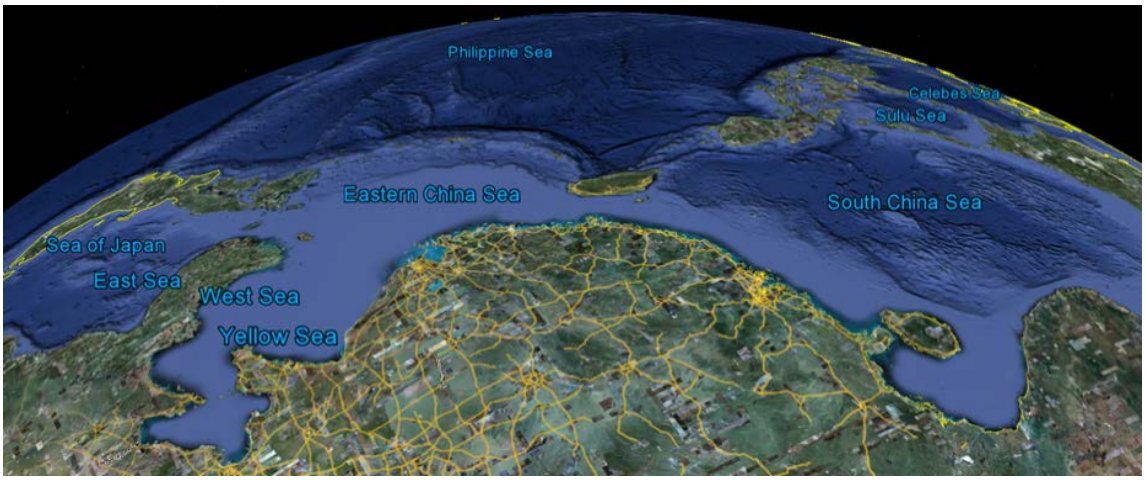


Figure 91. China's View of Taiwan's Ability to Interdict its Naval Capabilities
Source: Google Earth and Microsoft PowerPoint.

The Dutch East Indies Company, along with the Spanish from the Philippines seized Taiwan as a trading port in the early 1600s. In 1662, Koxinga, a Ming loyalist, conquered Taiwan from the Dutch East Indies Company. Using Taiwan as a resistance base against the Qing for 23 years, Koxinga and his son sustained themselves through trade with the Ryukyus and the Philippines.[63] The maps in figure 90 and 91 show its central location in relation to the Ryukyus as well as the Philippines. The Ming resistance to Qing unification effort is similar to the current KMT efforts at resisting the Chinese

[63]Government Information Office, "The Ming Koxinga Era (1662-1683)," http://www.taiwan.gov.tw/ct.asp?xItem=37232&CtNode=2230&mp=13 (accessed 30 October 2011).

Communist unification. Of note, the Koxinga Regime in Taiwan was conquered after 23 years by an amphibious attack by the Qing Navy.

Critical Capability:

1. Ability to interdict and dominate the East China Sea maritime trade.
2. Ability to harass Chinese coastal land of Fujian and lower Yangzi.
3. Ability to trade with Ryukyus and the Philippines.
4. Ability to act as the central point of the Ryukyu-Taiwan-Philippines naval curtain against mainland Chinese naval forces.
5. Highly educated and trained population of 23 million who are fluent in Hakka or Mandarin and able to work in, and with Chinese people on the mainland.

Critical Vulnerability:

1. Difficult to defend against an invasion from the mainland.
2. A strong landpower in China can blockade Taiwan's maritime activities, which it needs to sustain its export oriented economy.

Bottom line: Taiwan can protect or harass the maritime activities of Chinese coastal sub-regions. On its own, it depends on maritime trade for its economy. Its ethnic affinity to Fujian, points towards a possibility of a Fujian-Taiwan economic interdependence in the future. Its political future is a function of the diplomatic and military interplay between the US and China.

Trans Baikal: The key to the Pacific from the continental Heartland

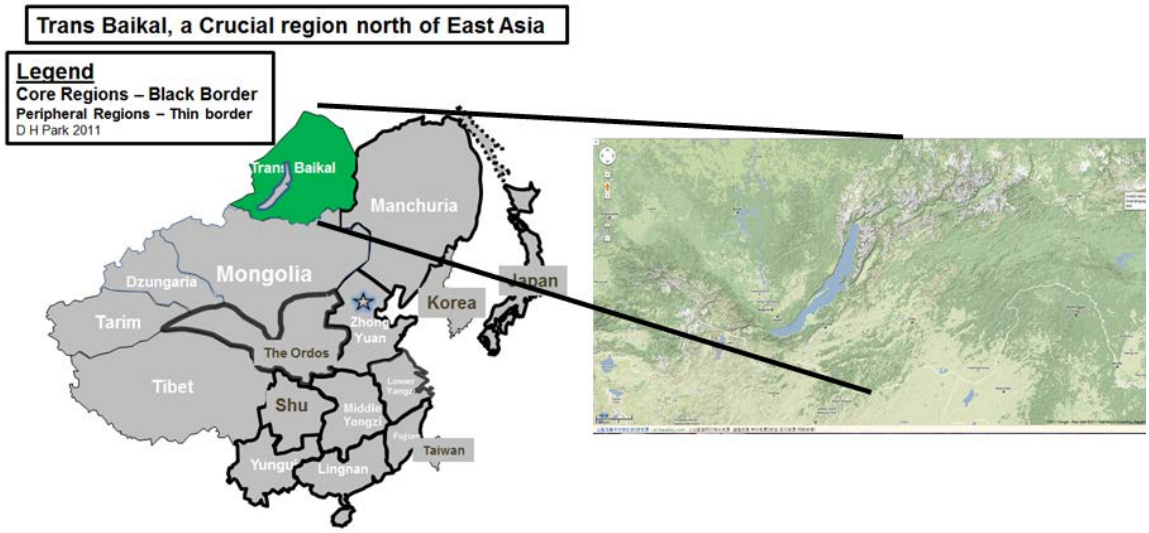
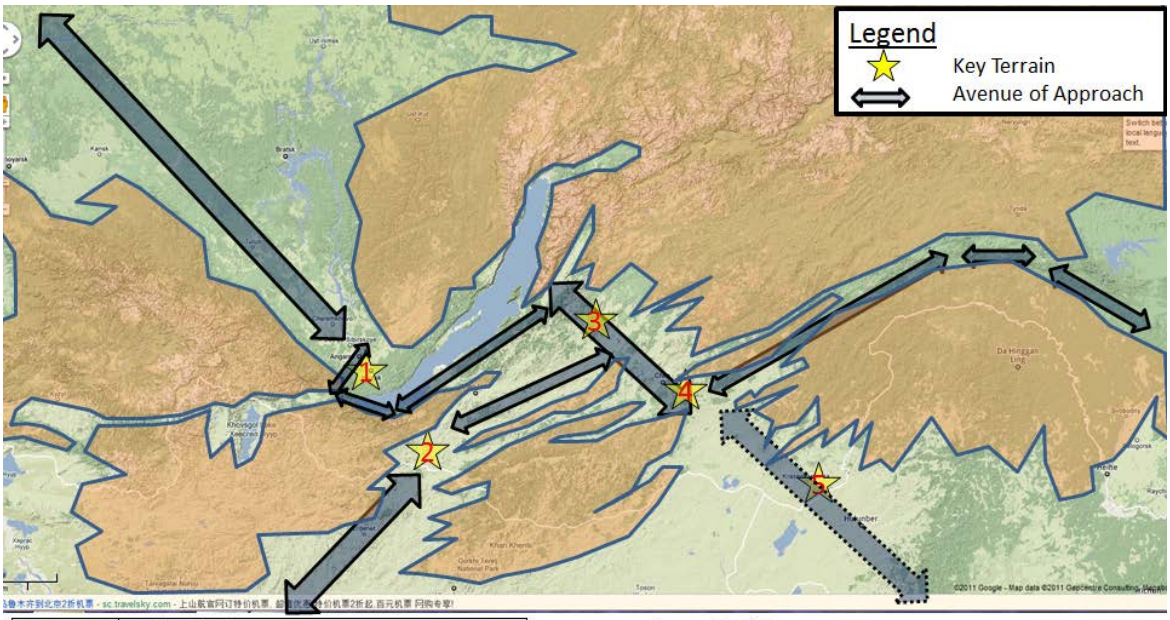


Figure 92. Trans Baikal: The Key to the Pacific from the Continental Heartland *Source*: Left map: Author's work top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011). Right map: google maps, http:maps.google.com (accessed 4 October 2011).

There are less than 6 million people in the entire Russian Far East, which includes all of the Russian territory to the north and to the east of Trans-Baikal. They mostly consist of people forcibly relocated to the Far East by Josef Stalin, and their descendants. This sub-region is the key to the Russian Far East. Currently underdeveloped, the continuing and accelerating rate of thawing of the Russian Far East and eastern Siberia will make this sub-region more and more critical for Russia and China in the next 100 years.

Geographic characteristics



Population	6 Million for the entire Russian Far East
Language	Russian
Gender Ratio	101:100
GDP	~$6000 for the three regions comprising TransBaikal
Industry	Low
Agriculture	Low

1. **Irkutsk**
2. **Kyakhta**
3. **Ulan Ude Choke Point**
4. **Chita Split**
5. **Zabaykalsk Border Transfer Point**

Figure 93. The Strategic Terrain of Trans Baikal
Source: Created by author using Microsoft PowerPoint overlayed on google maps, http://maps.google.com (accessed 2 October 2011).

The single overriding characteristic of Trans-Baikal is its canalizing feature. This terrain is as much a series of choke points as that of the Ordos, one of the the other geopolitical pivot. All but one Russian railway and highway through Siberia come through Irkutsk. The impassable terrain North of Lake Baikal forces most roads to turn South at the Lake. They go through a very narrow chokepoint at the southern edge of Lake Baikal, before reaching the relatively open area on the eastern banks of Lake Baikal. These lines of communication funnel through a single pass at Ulan Ude, before

reaching Chita, where it splits with one leg going towards Manchuria, and another going north in a circuitous fashion towards Vladivostok.

This canalizing characteristic of the region combined with its sparse population makes it s very easy region to interdict in any type of armed struggle. On the other hand, the high grounds overlooking the valleys and choke points allows a force to defend the region well, if it has enough forces. These two opposing characteristics of the terrain makes this a very interesting theater of operation for any military planner. A recent addition to this hub of Russian traffic is the Mongolian border at Kyakhta. This presents a potential shortcut for the Trans-Siberian Railroad to reach Beijing and the Zhongyuan. But as both railways split in Trans-Baikal, it only adds to the geopolitical value of Trans-Baikal.

Despite the capability of the Dzungarian Gate to facilitate an East-West link, the Trans Baikal sub-region offers Russia an ability to keep all traffic within Russia proper, without having to rely on Kazakhstan. The railway from Irkutsk goes directly to Moscow, without going through any other nation. As such, it is likely that the Russians will value this sub-region potentially more so than the Central Asian corridor through Dzungaria. Conversely, the Chinese may prefer the Dzungarian Gate, as it offers strategic depth, and it allows the Chinese government to potentially leverage Kazakhstan for its benefit.

Furthermore, with the thawing of East Siberia, and the mineral riches of East Siberia drawing both Russian and Chinese investors, this sub-region will become the gateway to the new world of East Siberia. Will the shrinking demographics of the Russian Far East reverse? Will the Chinese dominate this area with sheer population?

These are all interesting possibilities to be developed in Trans Baikal in the next 100 years.

Critical Capability:

1. Connects the market of Europe to the industrial and technological manufacturing hubs of East Asia
2. Ability to maintain a line of communication between Beijing and Moscow all within Russian borders.
3. Mountaineous terrain allows a defender to sustain a long term defense from the high ground.

Critical Vulnerability:

1. The line of communication contains several chokepoints, making it vulnerable to interdiction along its long length. Note that this is in the low valleys, as opposed to the high ground mentioned above.
2. Lack of sufficient population base to counter the 110 million Chinese just across the border.

Bottom line: The Trans Baikal sub-region will be the gateway to the newly developed land of East Siberia in the next 100 years. The extremely canalizing nature of the land around Lake Baikal makes its road system a true hub in the sub-region. It has the potential to become the gateway to a Siberian Renaissance, or a battleground between civilizations.

This concludes the geopolitical alaysis of the 17 sub-regions of East Asia. Although focusing on the geographical and historical analysis, some aspects of Climate were impossible to ignore. The next chapter will analyze the impact of global climate

change on the region of East Asia. But as these phenomena are global in nature, inevitably, aspects outside of East Asia will have to be discussed, before discussing the direct impact on East Asia itself.

CHAPTER 4

THE IMPACT OF CLIMATE CHANGE ON EAST ASIA

故經之以五，校之以計，而索其情：... 二曰天...。天者，陰陽、寒暑、時制也。
Therefore, evaluate war using five factors and make comparative calculations as a way to search out the true situation. The . . . second factor is heaven above. . . . Heaven above involves light and shadow, heat and cold, and the seasons.

Sunzi, *The Art of War*

The art and science of geopolitics is about human beings and nature comprising a single complex and adaptive system. Just as geography influences man, climate patterns also influence man. This is why Haushofer believed that nations were organic beings, and many Chinese continue to believe that there is an energy field throughout the world that also channels through humans. Jared Diamond built an entire theory explaining the rise and fall of civilizations based on environmental determinants. The long term effects of climate change will permanently alter the world as we know it. Some of these trends were identified during the analyses of Yungui and Tibet in particular. However, we will delve in to this in some detail, as its sub-regional effect cannot be identified without discussing the global impact first.

Trends Identified

The trend of global warming is a fact, confirmed by the preponderance of the scientific community.[64] Without debating the cause of it or how we can mitigate it, this

[64]All major governing bodies of professional scientists agree on this. National Academy of Sciences, "Understanding and Responding to Climate Changes 2009," http://dels-old.nas.edu/climatechange/understanding-climate-change.shtml (accessed 21 October 2011); Intergovernmental Panel on Climate Change, "Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change

study looks at the inexorable trends of climate change. Similar to geography, climate overcomes human resistance to contain or change it. As such, our delay in identifying this trend in the last decades of the 20th century has only made its prevention or reversal unlikely. The following are some of the trends agreed upon by the vast majority of the scientific community.

1. The average temperature of the Earth will rise by 2-6 ° C by 2100.[65]

2. The desertification of the inner lands of Africa, Asia, and Americas will accelerate,[66]

Adaptation 2011-2014," http://www.ipcc.ch (accessed 29 October 2011); Associated Press, "UN Report: global Warming Man-made, Basically Unstoppable," 2 February 2007, http://www.foxnews.com/story/0,2933,249659,00.html (accessed 21 October 2011); National Academy of Sciences, "G8 +5 Academies' Joint Statement: Climate Change and the Transformation of Energy Technologies for a Low Carbon Future," May 2009, http://www.nationalacademies.org/includes/G8+5energy-climate09.pdf (accessed 21 October 2011).

[65]Intergovernmental Panel on Climate Change, Chapter 10: Global Climate Projections from "Climate Change 2007: Working Group I: The Physical Science Basis," http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch10.html (accessed 21 October 2011).

[66]United Nations Convention to Combat Desertification, "Critical Assessment and Challenges ahead," 2008, http://www.unccd.int/cop/cop8/docs/parl-disc.pdf (accessed 21 October 2011); United States Department of Agriculture, "Desertification Map," 2011 http://soils.usda.gov/use/worldsoils/mapindex/desert-map.zip (accessed 21 October 2011). This map from USDA shows the entire Middle East not yet desertified as being highly vulnerable to desertification. The majority of the western half of the US is also highly vulnerable. The Sahara is expanding at more than 45 km^2 per year.

3. The glaciers across all of the high mountain ranges around the world will disappear by the mid-century,[67]

4. The Arctic ice cap will disappear between 2030 and 2100.[68]

Trends Analyzed

The above are not disputed within the scientific community, however, due to a powerful climate change denial lobby groups,[69] only 53 percent of Americans consider climate change a serious issue.[70] Globally, only 42 percent believe it to be serious.[71]

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[67]Intergovernmental Panel on Climate Change, Chapter 10.6.2: The Himalayan Glaciers from "Climate Change 2007: Working Group II: Impacts, Adaptation and Vulnerability," http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch10s10-6-2.html (accessed 21 October 2011). Tibetan glaciers are expected to disappear by 2035 at the current rate of melting.

[68]Julien Boe, Alex Hall, and Xin Qu, "September sea-ice cover in the Arctic Ocean to Vanish by 2100," *Nature Geosciences*, 15 March 2009, http://www.nature.com/ngeo/journal/v2/n5/full/ngeo467.html (accessed 21 October 2011). Most scientists predict full disappearance by 2100. This conservative estimate is challenged by others who predict the same by 2020: John Roach, "Arctic Largely Ice Free in Summer Within Ten Years?" *National Geographic News*, 15 October 2009, http://news.nationalgeographic.com/news/2009/10/091015-arctic-ice-free-gone-global-warming.html (accessed 21 October 2011).

[69]David Adam, "ExxonMobil continuing to fund climate sceptic group, record shows," *The Guardian*, 1 July 2009, http://www.guardian.co.uk/environment/2009/jul/01/exxon-mobil-climate-change-sceptics-funding (accessed 21 October 2011).

[70]Terence P. Jeffrey, Gallup: Majority of Human Race Does Not See Global Warming as Serious Threat," cnsnews.com, 25 April 2011, http://cnsnews.com/news/article/gallup-majority-human-race-does-not-see-global-warming-serious-threat (accessed 21 October 2011); Frank Newport, "Americans' Global Warming Concerns Continue to Drop," *GALLUP*, 11 March 2010, http://www.gallup.com/poll/126560/americans-global-warming-concerns-continue-drop.aspx (accessed 21 October 2011).

[71]Ibid.

Therefore, it remains unstudied from a geopolitical angle. The rest of this chapter examines the most obvious geopolitical meaning of the following scientifically agreed upon trends.

The first three factors above will be analyzed together due to their mutually reinforcing effects. Below are the resulting trends from the above three global ecological factors.

Migration of People

The increase in temperature is the root cause of the rest of the trends identified above. As the temperature rises, the glaciers that feed all of the major rivers in the northern hemisphere may dry up. This can cause many of the tributaries of the major river basins to dry up, reducing the size of these river basins, while increasing the size of the deserts adjacent to them, which already have been growing throughout the second half of the 20th century. As the desertification continues, the rivers can run dry, and the land may no longer support its people. The people out of desperation may leave these area, looking for a better land that still has plenty of food and water.

The other consequence of rising temperature is the capability to conduct agriculture in the higher latitudes, previously impossible. Currently, the temperate areas of the world are between the latitudes 30 to 50. This is where New York, Los Angeles, Rome, Athens, Beijing, Seoul, and Tokyo are located. With the increase in temperature, the temperate zone will shift to a higher latitude, from , 45 to-65. This can shift the center of North American civilization to the Hudson's Bay and the St. Lawrence Basin, plus the Yukon and Mackenzie basins in Canada and Alaska. In Eurasia, the Russian Heartland

may be the temperate zone best suited for human habitation. In the lower latitude areas, the previous cradles of civilization may increasingly become desertified.

Water Shortages Across Asia

Water shortages resulting from global warming will affect the entire world, but focusing on East Asia, as the Tibetan glacier disappears, the resulting shortage of water will affect India, Bangladesh, Burma, Thailand, Cambodia, Laos, and Vietnam. China is already short of water in the Zhongyuan sub-region, but soon, its Yangzi valley, Shu, Ordos, and the Lingnan will also suffer from water shortage, as their water source is also lies in Tibetan glaciers.

Water shortage does not simply mean there is no water to drink. It means agriculture may no longer be viable. Crops may fail. Starvation may spread. Theft and robbery may spread. Organized banditry can be next. Open rebellion can also follow. The steps just described accurately describes the collapse of any legacy dynasty in Chinese history, leading to periods of division and internal strife. This has occurred numerous times in East Asia. Simple water shortage can topple governments and nations. This is a concept present and well understood in Feng Shui, and explained in detail by Haushofer (see figure 16).

As the Southeast Asians and South Asians begin suffering the worst of the drought and rising sea levels destroying their agriculture, they will go in two directions canalized by geography. Some will enter Central Asia via Khyber Pass from the Indian subcontinent. Others will enter China through the Burma valleys and the gates in Vietnam. With catastrophic climate change, the amount of migration may overcome any state imposed effort at border control.

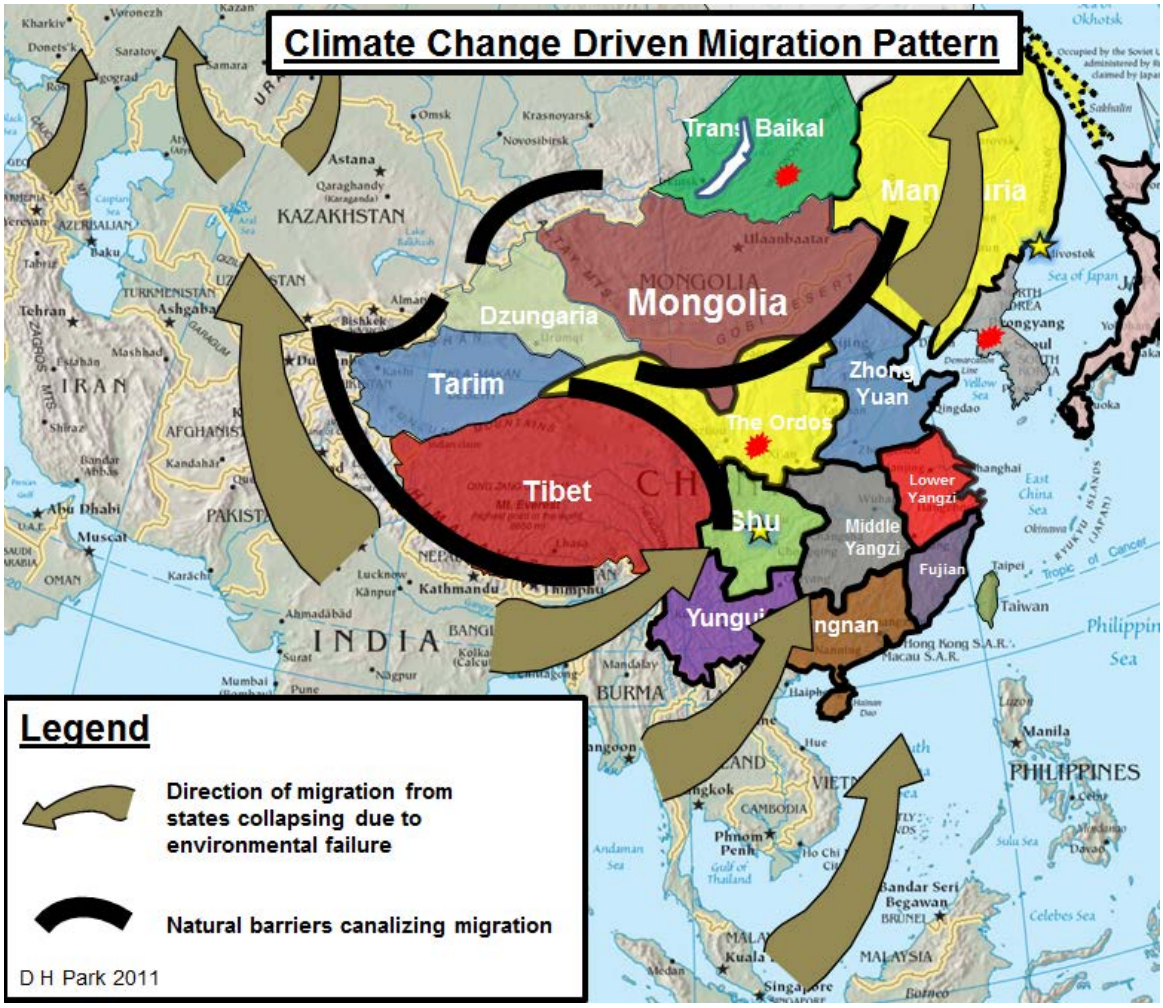

Figure 94. Climate Change Driven Migration Pattern of the 21st Century
Source: Created by author using Microsoft PowerPoint, built on top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011).

This emigration pressure may be duplicated in the Middle East as well, putting pressure in Central Asia and by extension, Russia. This human emigration of the 21st Century can change the geopolitical landscape of the entire Eurasian Heartland. Russia and China may attempt to resist this wave of human migration. However, stopping 1.5

Billion South and Southeast Asian seeking food and water will be difficult at best. This is a serious potential trend with many consequences and without an easy solution.

The fourth trend acknowledged by the scientific community is the melting and disappearance of the Arctic ice cap between 2030 and 2100. The melting ice cap will cause numerous second and third order effects. It behooves all nations to prepare for the consequences of this epoch changing event. Some of the most pertinent consequences are analyzed below.

The Heartland Resurgent

This is the most pertinent development concerning this study. Mackinder's Heartland, Russia, until now has not lived up to what Mackinder had predicted. Although protected from the maritime powers of Britain and United States due to its long coastline being frozen and being inaccessible, it also prevented Russia from developing a powerful Navy. Forced to live out its destiny as a landlocked power, it has suffered much at the hands of the Sea Powers in its entire modern history: from Britain in the Crimean War and the Great Game, to Japan in 1904, and then the Rimland Power of Germany in 1917, to once again Germany in 1942, to United States from 1945 to 1991.

The Arctic Ocean as the Center of 21st Century Geopolitics

The global warming, unforeseen by Mackinder, may finally allowed his predictions to come true beyond anyone's wildest imagination. Russia is still yet to unite all of the Heartland, but better than that, it may now possess a coastline perhaps larger than the coastlines of any country in the world. The Heartland's command of the Arctic Ocean will give it the ability to reach both Europe and Asia through maritime means.

This will be a fundamental change in modern geopolitics. Russia, which has always been a landpower, crippled by its inability to match the sea power of Britain and the United States could conceivably now have the resources and the geopolitical position to equal and defeat Britain and America at sea.

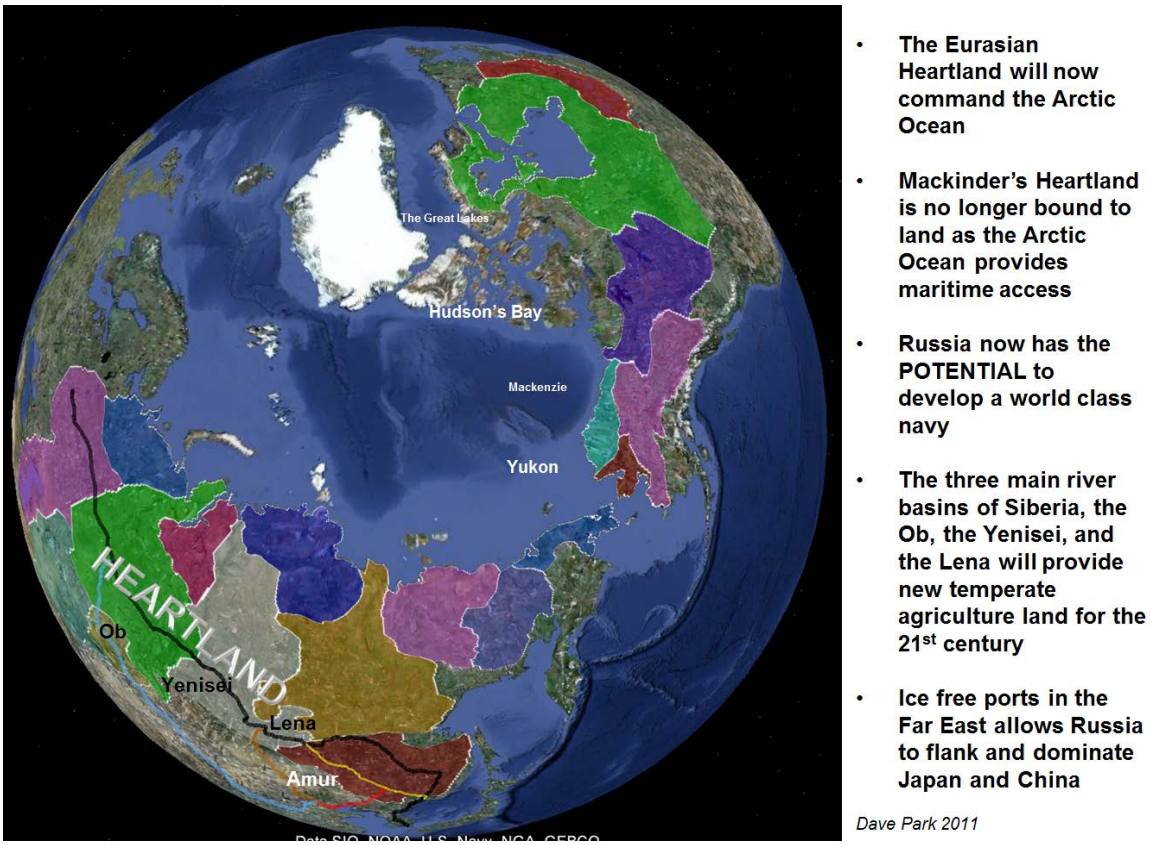

Figure 95. Mackinder's Revenge
Source: Created by author using overlays within Google Earth, captured on PowerPoint.

Figure 95 shows the large river basins in Siberia. The thawed basins of Ob River with the Irtysh estuary, the Yenisei, the Lena, and the Kolyma can sustain intensive agriculture. These river basins, heretofore untapped, are as large as the Mississippi River

Basin of the US and the Yangzi River / Huanghe basins of China. The Russian Heartland may now possess the ability to become the new breadbasket of the world.[72]

Furthermore, we now know that the Arctic Ocean is filled with resources of different variety that can potentially replace the world's dependence on Middle Eastern oil. As the ice melts, perhaps the Middle East may run dry of its oil before the Arctic fields are fully functional. In addition to oil under the ocean, the thawing lands of Siberia also contain valuable resources until now too difficult to extricate due to the permafrost and the inhumane climate of the sub-region.[73]

[72]USGS, *Resources for a Sustainable Future*, 13 May 2011, http://www.350 resources.org.uk/2011/05/13/arctic-oil-nations-scramble-to-exploit-the-arctics-resources/ (accessed 31 October 2011).

[73]International Institute for Strategic Studies (IISS), "The Rapidly Melting Arctioc: Opportunity or Dange?" http://www.iiss.org/whats-new/iiss-voices/the-rapidly-melting-arctic-opportunity-or-danger/ (accessed 31 October 2011).

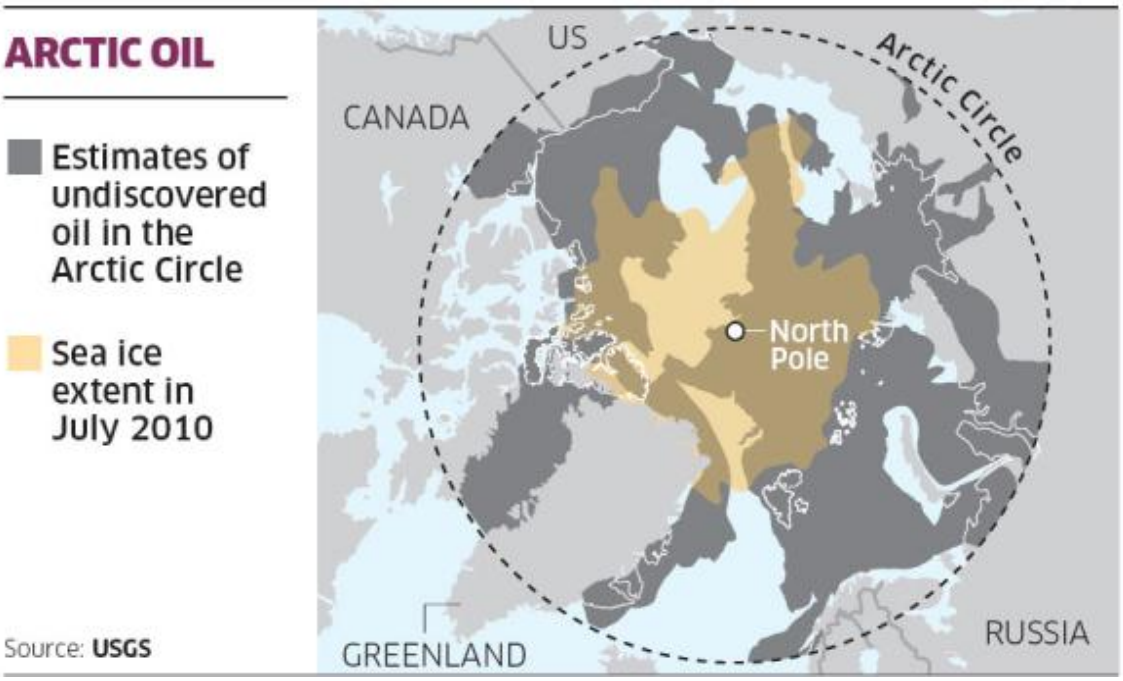

Figure 96. Arctic Oil Reserve Estimate
Source: USGS, *Resources for a Sustainable Future*, 13 May 2011, http://www.350resources.org.uk/2011/05/13/arctic-oil-nations-scramble-to-exploit-the-arctics-resources/ (accessed 31 October 2011).

Until today, the center of human civilization in terms of latitude was 30-50. With global warming, with the equator sub-region becoming less habitable, and the arctic sub-region become more habitable, the center of human civilization may naturally shift to the latitude 45-65.[74] This puts the entire Russian Heartland within the optimal environment for human civilization.

[74]Patrick Gonzalez, , Ronald P. Neilson, James M. Lenihan, and Raymond J. Drapek, "Global Patterns in the vulnerability of ecosystems to vegetation shifts due to climate change," *A Journal of Macroecology*, 2010, http://www.webpages.uidaho.edu/envs501/downloads/Gonzalez%20et%20al.%202010.pdf (accessed 31 October 2011).

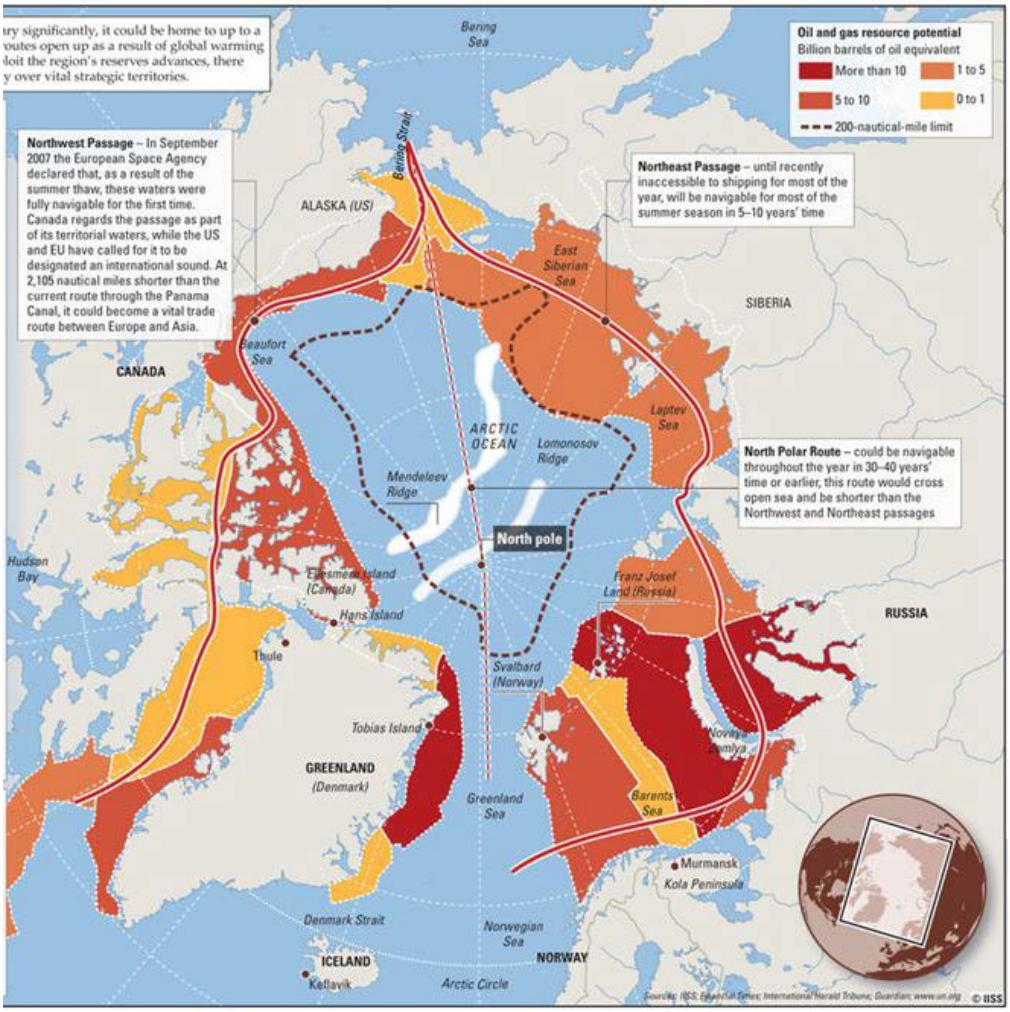

Figure 97. Arctic Oil Reserve and National Boundaries
Source: International Institute for Strategic Studies (IISS), "The Rapidly Melting Arctioc: Opportunity or Dange?" http://www.iiss.org/whats-new/iiss-voices/the-rapidly-melting-arctic-opportunity-or-danger/ (accessed 15 November 2011).

All of these factors may allow Russia, if willing, to rejuvenate and take the helm of global economic and industrial leadership. If Russia is able to reinforce its resource base with an industrial and technical foundation, it may attempt to be the next global hegemon. Moreover, it can be the first truly autarkic global power, possessing not only fuel, but its own food source, timber, and an ocean to control global trade.

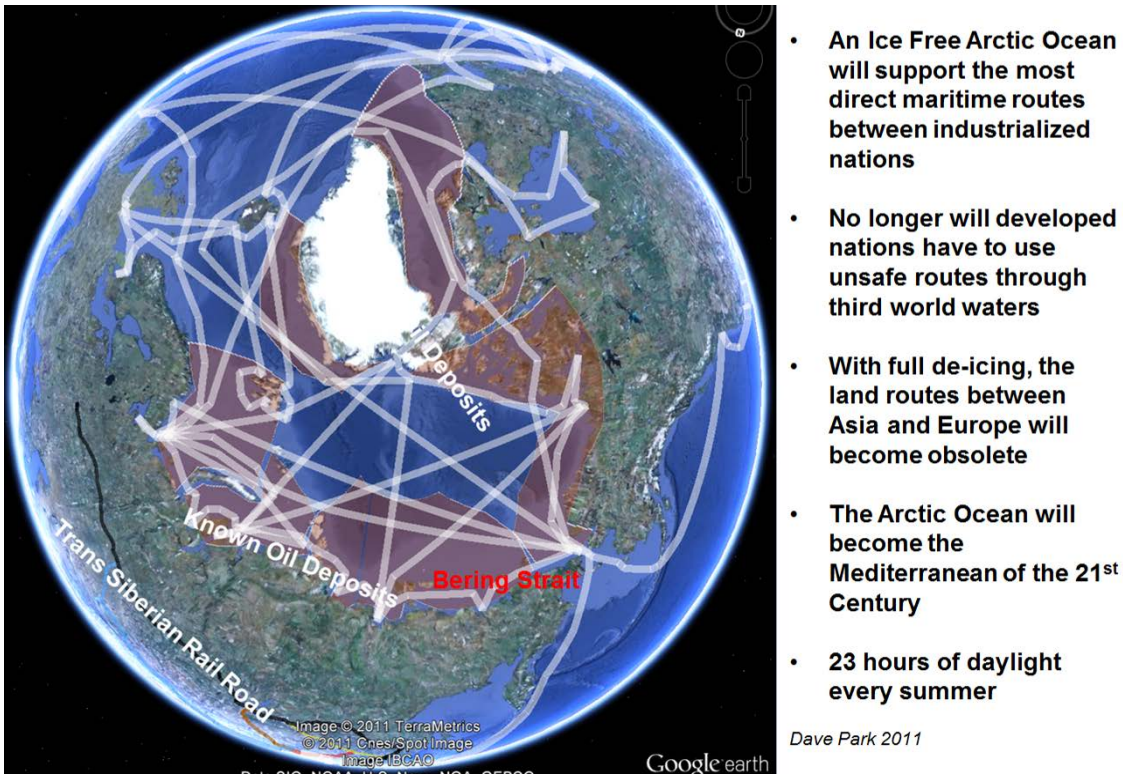

Figure 98. Future Maritime Routes in the Arctic Ocean
Source: Created by author using overlays within Google Earth, captured on PowerPoint.

Figure 98 shows the trade routes through the Arctic Ocean. Notice that the Bering Strait may become as geopolitically important as the Suez Canal and the Panama Canal rolled into one. From the Atlantic Ocean, there are multiple channels of entry in the Arctic Ocean. But, from the Pacific Ocean, the narrow Bering Strait is the only entry. Between 30-50 meters deep throughout, even its submarine activities can be interdicted very easily. The Bering Strait may well become the singularly significant geopolitical choke point of the late 21st century. The trade routes through the Arctic Ocean can allow the developed nations of Europe, Asia, and North America to stop relying on the existing maritime routes that travel through extremist dominated and contentious routes through

the third world, making the third world increasingly irrelevant. Maritime trade can be safer, without the threat of Muslim piracy, and maritime interdiction in the Persian Gulf.

In addition to the Arctic Ocean, Russia may finally acquire true year round ice free ports in East Asia. The ports of Vladivostok, Magadan, and Petropavlovsk will have increasing importance as the home ports of the revived Russian Far Eastern Fleet. This fleet can give the Russians the ability to control or challenge access to Bering Strait, as well as flank Japan and China from the sea, which it has never been able to do so far, due to all of its Asian ports freezing up in winter. This will definitely change the balance of power in East Asia.

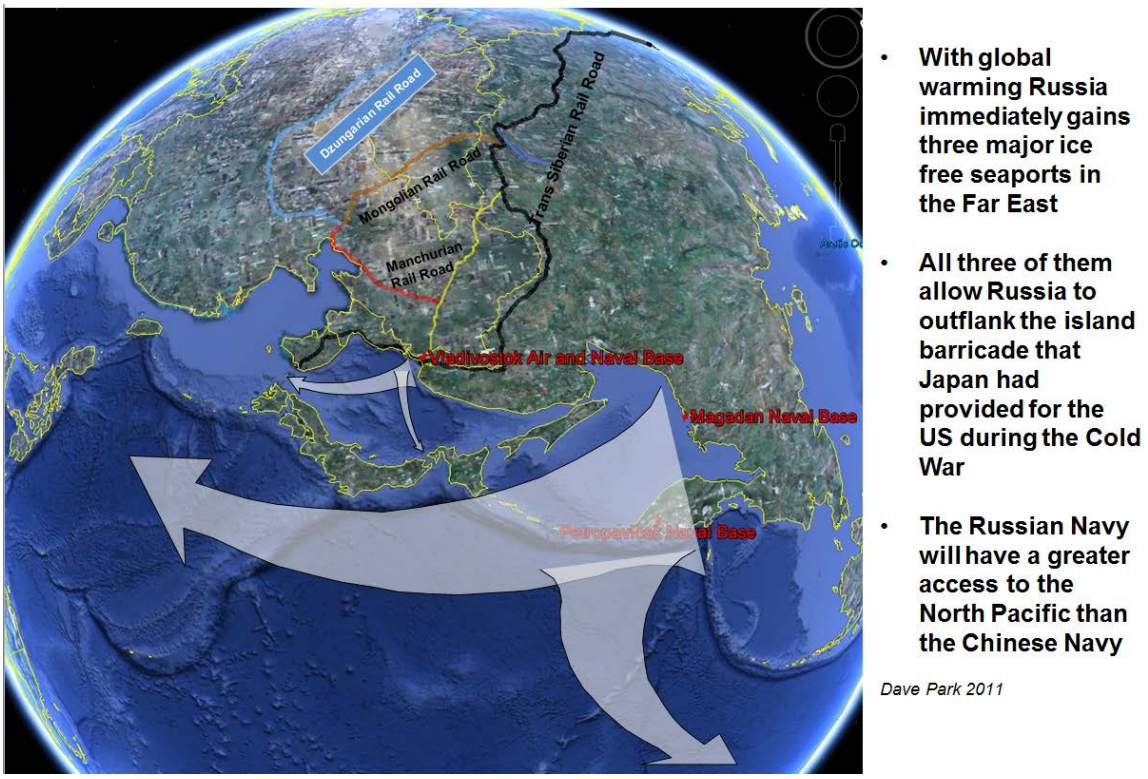

Figure 99. Russian Navy's Potential Domination of East Asia by the Mid-century
Source: Created by author using overlays within Google Earth, captured on PowerPoint.

As Russia develops a strong maritime capability, it may rely less and less on the overland railway to China. With China unable to tap into the riches of the Arctic Ocean, and overcome by the influx of immigrants from Southeast Asia and South Asia, with not enough food and water to feed its own population, China's Central Government may perhaps lose the "mandate of heaven." This would normally mean chaos, possibly splintering, and a period of civil war to follow.

There may be several unexpected winners during the period of global warming. Iceland, as it dominates the vital entryway into the Arctic from the Atlantic side, will benefit much economically form its geopolitical location, as a new Singapore of the 21st century. The US, Canada, and the western European nations will likely strengthen their relationship with Iceland to maintain a free flow of their commercial fleet through the Greenland–Iceland–UK Gap (GIUK). Additionally, Norway stands to benefit much from Global Warming. Its Spitsbergen Islands are closer to North Pole than any Russian territory. Its sizeable territory will play a significant role in the rise of Norway as a significant geopolitical player in the 21st century. The other benefactor is Denmark. It owns Greenland. Once fully de-iced, it will contain a large freshwater lake in the middle of the island. Not only will it become a giant vacation spot for Canadians and Europeans, and an agricultural area, but alongside Canada, it will dominate the Northwestern Passage through the Arctic Ocean.

Now, there are opposing trends that will make the Russian domination of the Arctic Ocean not as easy as it seems. First and foremost, is the rise of the "Second Heartland" in North America. Although smaller than the Eurasian Heartland, North America is a far more stable environment. It does not have a large and growing Muslim

population just south of the border, as does Russia. It does not face a geopolitical challenger like China or Europe within the same continent. It does have a migration problem from the South, but they do not bring a violent ideology like the Muslims in Europe. If anything, the southern migrants for North America can fill a desperate demand for cheap labor within north America.

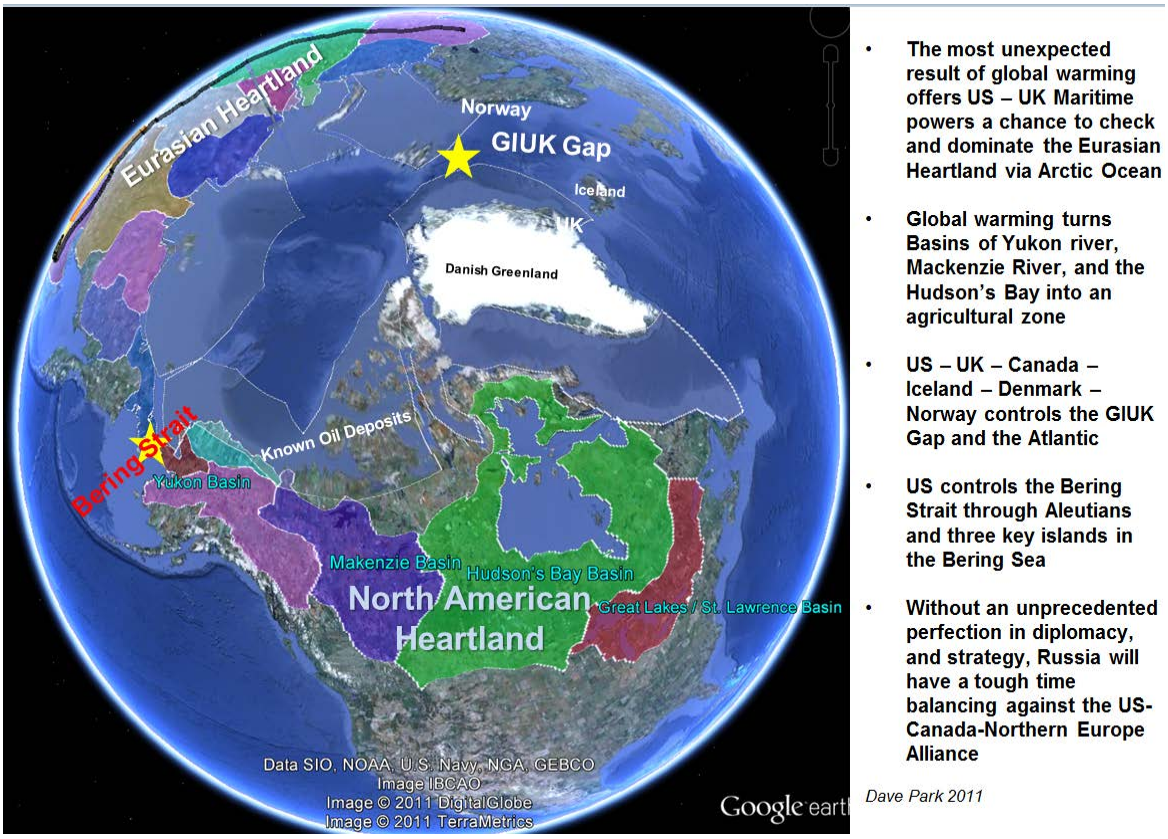

Figure 100. The Resurgence of North America by the Mid-Century
Source: Created by author using overlays within Google Earth, captured on PowerPoint.

The main issue for the North American Heartland will be whether Canada and the United States will be able to arrive at a framework of cooperation, and possibly a peaceful and mutually beneficial union. This does not seem too far-fetched, given the

cultural and linguistic kinship between the two nations. Whether united formally, or under a strong alliance, the North American Heartland, centered on the new civilization centers of the Yukon River basin, the Mackenzie River basin, the Hudson's Bay basin, and the Great Lakes/St. Lawrence basin, will be able to compete favorably against the Eurasian Heartland for dominance of the Arctic Ocean.

Even if a union or a strong alliance between the US and Canada is not realized, the United States can still dominate the Arctic Ocean through Alaska. Of the known oil reserves in the Arctic, Alaska has a very sizeable portion of it. Granted the unexplored portions of the Arctic reserves probably lie within Russian area of influence, Alaska has several other points of dominance within the Arctic Ocean. The most significant geopolitical factor for Alaska is that it dominates the Bering Strait. Alaska owns all but one of the islands in the Bering Strait, to include St. Lawrence Island, St. Matthew Island, Nunivak Island, Little Diomedes Island, the Pribilof Islands, and the Aleutian Island chain. The Aleutians form a southern barricade of islands covering the entire Bering Sea, while the smaller islands dominate the Strait itself.

Figure 101. Alaska's Commanding Position over the Bering Strait
Source: Created by author using overlays within Google Earth, captured on PowerPoint.

Given the factors listed above, it is likely that the melting of the Arctic Ocean will benefit the new Heartland of North America as much as it will benefit the Eurasian Heartland. Nevertheless, there is one more significant problem for Russia that may ultimately prevent it from dominating the Arctic Ocean, or even its own Eurasian Heartland. It is the demographic problem of Russia, caused by its decreasing population. The causes are numerous, to include the fact that Russians over the last several decades have aborted more children than it has birthed. Russian men are in many cases more interested in drinking and using drugs than getting married and making babies.[75] Alcoholism is pervasive across all Russian demographics. This is a significant social

[75]Tony Barber, " Stark truths of Russia's demographic crisis exosed in UN report," *Brussels Blog*, 6 October 2009, http://blogs.ft.com/brusselsblog/2009/10/stark-truths-of-russias-demographic-crisis-exposed-in-un-report/#axzz1eLSEXFBd (accessed 31 October 2011).

problem that Russia faces, that leaves its potential domination of the Arctic Ocean far from a foregone conclusion.

Other problems of Russia include its continued insurgency in the Caucasus region with its Muslim minorities. The continuing desertification of the Middle East and Central Asia will accelerate the immigration of the Muslims into Russia proper. The death of the Aral Sea is probably a harbinger of worse things to come in Central Asia. Central Asia is divided essentially into two river basin areas, the Aral, and the Balkhash. The Aral is already dead. Balkhash will suffer as its source, the glacier on the Tien Shan Mountains in the Tarim and Dzungaria sub-regions of China disappear in the next several decades. As the Central Asian Republics develop a stronger bond with China through the Dzungarian pipelines, highways and railroads, China may exert its influence over the Central Asian Republics against Russia's interests.

Chinese people, perhaps without their government's design, may increase their rate of immigration into Russian Far East, quickly outnumbering the dwindling ethnic Russian population in the Russian Far East. Russia east of Lake Baikal contains 6 million ethnic Russians today, down from 8 million in 1998. It is projected to reach 4.5 Million by 2015 due to continued emigration of ethnic Russians to European Russia, combined with natural rate of death and dwindling birth.[76] Chinese immigration into the Russian Far East is not officially documented or tallied. But the largest estimate puts it at under 500,000, which is quite small, considering that the total Chinese population in Manchuria

[76]United Nations, "World Population Prospects, 2008," http://www.un.org/esa/population/publications/wpp2008/wpp2008_text_tables.pdf (accessed 30 October 2011).

is at 110 million. More likely, they are under 200,000 at this time.[77] They are currently concentrated in the former Qing land in the east, on the far side of the Amur River, down to Vladivostok. Taiwan still claims all of the land lost to Russia north of the Amur. The PRC does not. However, as the population pressure is compounded by an increasing shortage of water at home, the PRC may change its mind.

If Russia were to face internal and external crises in the future, Japan may pressure the return of its northern territories from Russia. Russia does have a history of selling its peripheral lands to foreign nations. Russia already had given away all of the Kuril Islands to Japan in 1875 in return for all of Sakhalin.[78] Perhaps a similar action involving the sale or swap of islands or larger territories may not be so far fetched, with US assistance and Russian desperation. The possible Japanese acquisition of the Kurils, combined with the American Aleutians, may somewhat contain Russia's naval forces from the Pacific.

The continued authoritarian regime in Russia plus the rampant organized crime may ignite social unrest making it difficult for the central government to counter these external challenges, while managing its internal problems, making it impossible to leverage the opportunity for the domination of the Arctic Ocean. As such, if all things line up, East Asian powers may assert themselves in the region, especially in the Russian Far East.

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[77]Charles Ganske, "The Myth of the Yellow Peril: Overhyping Chinese Migration into Russia," *Russia Blog*, 1 April 2009, http://www.russiablog.org/2009/04/post_15.php (accessed 30 October 2011).

[78]Robyn Lim, *Geopolitics of East Asia: the Search for Equilibrium* (London: Routledge, 2003), 24.

Effects of Global Climate Change on East Asia

The above global trends can potentially translateinto major changes for East Asia in numerous ways. First, China's internal problems can deteriorate. Its current problems of overpopulation, gender imbalance, industrial pollution, regional water deficiencies, and power shortage maybe be compounded by an ever-increasing migration from the south, and a further decline in water sources, exacerbated by the potential disappearance of the Tibetan glacier. The immigration from the south will begin with the return of ethnic Chinese currently spread out through all of Southeast Asia, returning to the Lingnan and Fujian areas of China, where their ancestors originated from, and where they can communicate with the locals. As these sub-regions already suffer from overpopulation, this will build further pressure in the sub-regions, necessitating a pressure valve release somewhere else within China.

As humans need living space, per Haushofer, the people of China, along with immigrants from the Southeast Asia may seek new lands. Channeled by geography, hemmed in by the mountains of Tibet and the Gobi Desert, the natural choice is the under populated and increasingly warm and habitable lands of the Russian Far East. This trend is not yet detectable. However, this study posits that given the dramatic differences between Russia and China in terms of population and resources, this is likely to happen in an accelerating manner in the coming decades.

The second effect is that as the Arctic maritime trade routes open up, the overland route created by China through Dzungaria may increasingly become secondary, as its coastal sub-regions, Korea, and Japan begins importing Arctic oil from Russia, Canada, and the United States through the Bering Strait. China may begin to feel a pressure to

somehow expand commerically into the Russian Far East. If Russia is able to reorganize itself, and somehow regain its national vigor, China will have little or no success in the Russian Far East. However, if Russia crumbles under the pressure of its internal and external problems, then China may have an opportunity to save itself by expanding into the Russian Far East, perhaps gaining an access or a land bridge to the Arctic Coast.

Thirdly, if Russia successfully leverages all of the resources of the Arctic Ocean and develops a strong economy resulting in a powerful maritime force, it can potentially dominate East Asia. Its port of Petropavlovsk on the Kamchatka peninsula will balance against the US forces in Alaska, with Magadan base serving as a backup in the enclosed sea of Okhotsk, which will become a natural maritime fortress for Russian Far East. Vladivostok will serve as a Russian port of influence in the critical high tech sub-region of Korea-Japan. China will remain blocked in, by the Russian Fleet in the Pacific north, with Japan, Korea, and Taiwan continuing to hem in China from the East Asian maritime periphery. China at this point can seek assistance from the United States, or grow closer with Russia, developing a relationship of close cooperation. Again, this requires a dramatic cultural renaissance in both Russia and China.

This study shows that we as humans can do little about geography and climate. The one decision by man that will have the greatest impact here is how Russia handles itself in the next half a century. If it is able to overcome its problems, both internal and external, it can dominate East Asia, as well as the Arctic Ocean. If it fails, China, in an effort to merely survive, may be forced to expand, whether politically, militarily or just economically into the Russian Far East. Given Russia's nuclear arsenal, it is unlikely that China will pursue a military solution. Whatever choices these nations make, the one

highly likely outcome, is that the Arctic coast of Russian Far East will be settled, developed, and will eventually outshine the overpopulated urban centers of East Asian continent. Korea and Japan will continue to enjoy a high level of wealth due to their geopolitical positions shielding them from the effects of uncontrolled immigration form the south.

The next chapter will combine the identified climate trends from this chapter with the geopolitical factors from chapter 3 to form a interconnected system of mega-trends for the entire region.

CHAPTER 5

THE GEOPOLITICAL DESTINY OF EAST ASIA

> Geography is the most fundamental factor in foreign policy because it is the most permanent.
>
> — Nicholas Spykman

Combining the effects of geography and climate change on East Asia, not at the national level, but from a geopolitical regional level, the following regional mega-trends emerge.

Melting Glaciers and Water Shortage

The growing water shortage in Zhongyuan is causing the Chinese government to build 140 dams in Yungui and Tibet to divert water to the north, as well as to provide power for its growing population. This is at most a short-term fix, as the continued population growth and the industrialization will only increase the demand for water. Simultaneously, global warming is melting the glaciers in Tibet, which is the source for all of the rivers of East Asia. Reducing supply coupled with increasing demand will result in an ecological crisis, potentially resulting in mass immigration of people from Zhongyuan into Manchuria and perhaps into Russian Far East. The ultimate effect of the water shortage and Chinese diversion of that water on the nations of Southeast Asia and India is difficult to assess at this time.

Energy Shortage Unmitigated by Pipelines

The economically upwardly-mobile population of China will require a continuously increasing amount of fossil fuel. The maritime route through the Persian

Gulf, the Indian Ocean, the Strait of Malacca, and the South China Sea is already unstable. This may fuel the Chinese desire to build an overland route through Dzungaria and the Central Asian Republics. The main gap right now is Turkmenistan, which is the sole state in Central Asia to abstain from joining the Shanghai Cooperation Organization. Without Turkmenistan, the pipeline from China through Kazakhstan cannot reach Iran. This building of the landside pipeline can potentially improve the Russia-China alliance, or just as likely cause a greater competition in Central Asia between Russia and China.

As already mentioned, as the ice cap melts in the Arctic Ocean, any land based pipelines and transportation will increasingly become secondary, if not peripheral. China, by relying entirely on continental pipelines and the dwindling reserves of its Middle East and Central Asian suppliers, risks a social collapse in its pressurized core sub-regions.

Agricultural Collapse and Migration

The combined effect of increasing population and water shortage is famine. Add the effects of global warming, and you may have more frequent cyclones, flooding and a stronger and longer monsoon season throughout the subtropical Asian rim. The increased rainfall may not save agriculture, as the rain is not fed into the rivers at their origins in Tibet. The rivers may still go dry at their points of origin as the glaciers disappear. Just to clarify, this is not expected to happen until later this century, but the effects will begin to be felt before the glaciers completely disappear. However, when it happens simultaneously in India, Bangladesh, Burma, Thailand, Cambodia, Laos, and Vietnam, it will be a catastrophe unseen in Asia in its entire history.

Japan, Korea, and Taiwan as the Rimland of East Asia

Protected by their maritime orientation, these three sub-regions of East Asia may avoid the demographical challenges that the continental sub-regions of East Asia can face in the next 100 years. They will have to survive by adroitly balancing against the Heartland powers of China and Russia, whether they are allied together, or not.

The Korean peninsula remains as the high-speed avenue of approach for any armed forces, and as such, neither Japan nor China will allow each other or their allies to dominate the entire peninsula. Taiwan's ability to check Chinese maritime commerce makes it a maritime pivot and China will not allow a foreign power to continue to influence or dominate it to interdict its maritime freedom. Both of these geopolitical factors go back to the historical norm of the sub-region where China exercised regional hegemony over both of these areas, thereby securing its core. The current state represents a fifty-year-old homeostasis as a result of the Cold War. It is when the Koreas unite, or if Taiwan declares independence that this homeostasis will be broken, resulting in a region-wide crisis.

The alignment of Japan is problematic in the region, as it has never joined the Sinic regional hegemony in the past. Reinventing itself as a "western" nation in 1850s, and practicing western style colonialism in the region for a century did not gain Japan any friends in East Asia. With the waning influence of its single friend and patron, the United States, Japan must reevaluate its alignment and identity to preserve its welfare and stability. Its natural position of offshore barricade to the East Asian continent presents a challenge to the regional hegemony of China. Without the added weight of a strong US military presence, the imbalance in geopolitical power will need rebalancing.

The real strength of Korea, Taiwan, and Japan for the 20th century is ironically their lack of a population growth. Their high tech industry, well educated population, combined with their maritime positions provide them a bulwark against continental immigration. This will allow them to maintain their high tech industry in the foreseeable future, making them the chief beneficiary in East Asia from the Arctic Ocean maritime trade routes. They will no longer have to risk their commercial fleet in the pirate-infested Indian Ocean, and will be able to cut costs by getting cheap oil from the Arctic Ocean.

Increasing Centrifugal Force within China

The nine core sub-regions of China suffer from a wide disparity in wealth. The recent economic growth of China has benefited the Lower Yangzi, the Lingnan, and the Zhongyuan at the cost of many others. This trend, combined with the fact that the sub-regions suffering the most economically are traditionally the most likely to rebel against the central regime, may cause some worry in Beijing.

The same sub-regions which suffer the most from perceived and real lagging in economic growth also suffers the most in terms of gender disparity, causing a crisis among young men who are unable to find their mates. All of the sub-regions exhibit a strong sense of sub-regional identity, each of them with their own unique tradition of culinary, agricultural, sartorial and even architectural design. And every one of these sub-regions speak what are essentially different languages.

The most interesting trend discovered in the sub-regional analysis is that while the Chinese government states that over 53 percent of its population is able to speak

Putonghua, the official dialect of China,[79] the number of native-born speakers of Putonghua is unknown. The best estimate by the author based on the population of the areas where the Beijing dialect is spoken is that about 7 percent[80] of China speaks Putonghua as their first language. What is also ignored is that the Chinese language contains over 1500 identified and distinguishable varieties spoken by only several among the 56 ethnic groups in China.[81] This speaks volumes about their national unity and identity.

What is interesting is the Chinese government's official insistence that 836 million out of its 1.3 billion people speak Mandarin, the official language. What they never mention, is that the Mandarin language has at least eight different dialects, of which only three share a high mutual intelligibility. The other five dialects are not fully mutually intelligible with the official Putonghua dialect of Chinese Mandarin.[82] This is only among the native speakers of the Mandarin dialects. The mutual intelligibility between any one of these Mandarin dialects with non-Mandarin dialects are varied, from

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[79]chinaview.cn, "More than half of Chinese can speak Mandarin," 7 March 2007, http://news.xinhuanet.com/english/2007-03/07/content_5812838.htm (accessed 30 October 2011).

[80]This is a an optimistic figure, assuming that the entire population of Beijing, Tianjin and the Hebei province speaks the Putonghua as its first language. It is known that within Hebei, there are at least two other competing dialects of Mandarin, the Ji-Lu and the Jin, each of which has tens of millions of speakers. Therefore the actual percentage of native born Putonghua speakers are probably closer to 3-4 percent of the population.

[81]Chaoju Tang, *Mutual Intelligibility of Chinese Dialects: An Experimental Approach* (Utrecht, Netherlands: LOT, 2009), 19-20.

[82]Tang, 58

nearly 0 percent intelliegibility between Mandarin and Cantonese, to less than 50 percent for the Anhui and Wu dialects versus Mandarin.[83] This shows the Chinese government's insecurity in continuing to declare itself a single nation state, which it clearly is not.

Add to this existing insecurity of the Central Regime the demographic and climatological pressure, and you have the makings of the loss of the mandate of heaven. Every single dynasty that collapsed began its decline through an Empire wide famine, or other natural disaster causing further problems, and normally accompanied by a foreign incursion or an internal rebellion.

The arrival of refugees from the South will be a new type of problem for China. For thousands of years, its "immigrants" consisted of northern nomads, invading and settling down, usually in the Ordos. How China will deal with refugee migration is yet to be seen.

Given these trends and issues, one of China's main issues is that of keeping the country together as a single state. Its rich history of dynastic divisions show economic or ecological disaster causing the loss of the mandate of heaven for the ruling dynasty, leading to multiple and simultaneous sub-regional rebellions and fracturing of the Empire. Many of the trends identified above makes this at least a distant possibility.

Russian Naval Dominance of the Far East

Given the mutually interdicting geopolitical locations of their naval assets, the fleets of China, Taiwan, South Korea, North Korea, and Japan prevent one another from venturing too far from their coastline. In the meantime, the melting ice from the Sea of

[83]Ibid.

Okhotsk, may make the Russian Far Eastern fleet bases ice free and capable of year-round operation for the first time in history. Leveraging the newly found wealth from the Arctic Ocean, the Russian Navy will now enjoy a degree of freedom of maneuver not experienced in its history. With the assistance from its US ally, Japan may avert being completely dominated by the Russian fleet from the North, but the amount of naval power Russia can generate will be at an unprecedented level. Russia maintained these bases and the Far Eastern Fleet using ports and facilities that were operational only 8 months out of the year. Now with full year around operation, the possibilities are intriguing.

As mentioned previously, the US fleet and forces from Alaska, Hawaii, and the West Coast will continue to dominate the Bering Strait. However, the unforeseen genesis of a Russian fleet will trigger a counteraction from the US, as well as its Pacific allies, resulting in a potential naval arms race in the North Pacific. Russia, if able to surge, may attempt to gain dominance over the Bering Strait. The US likely will not allow such a situation. Japan may see an opportunity to strengthen relationship with the US in its bilateral alliance. Where would Korea and China side in this maritime arms race? So begins the foundation for another study.

Figure 102 brings together the six interlocking trends within East Asia that can influence its destiny for the rest of the 21st century. The stars with numbers correspond to the identified trends for the region. They are depicted directly on the templated locations for the trends. The brown arrows indicate the force of human migration. As we know from our own American experience on our southern border, these ecologically and geographically driven events cannot be stopped by legislation or paramilitary garrisons. If

the root cause is global, and difficult to reverse, the symptoms, such as immigration will be difficult to mitigate.

As the Himalayas and the Tibetan plateau canalizes movements of the peoples, the migration from the South to the North may take two main broad avenues. One is thorugh Khyber Pass into Afghanistan towards Central Asia and Russian Heartland. The other is through the numerous river valleys in Southeast Asia leading into the Yungui sub-region of China, then further inland towards Zhongyuan. Every one of the Chinese core sub-regions are overpopulated with pre-existing tensions as identified in chapter 3. Any addition to the existing tension and friction may have an igniting effect for the dormant volatility of the East Asian continent.

The gray arrow pointing south from the Russian Far East is probably the most unexpected finding from this study. This possibility has the potential for upsetting the equilibrium of East Asia that has arguably kept the region peaceful since 1953. This possibility depends on many factors, the least of which is how the Russians will deal with the climate changes in potentially reforming their own country. Therefore, all of these trends are mostly a function of the invisible hands of geography and climate on humans.

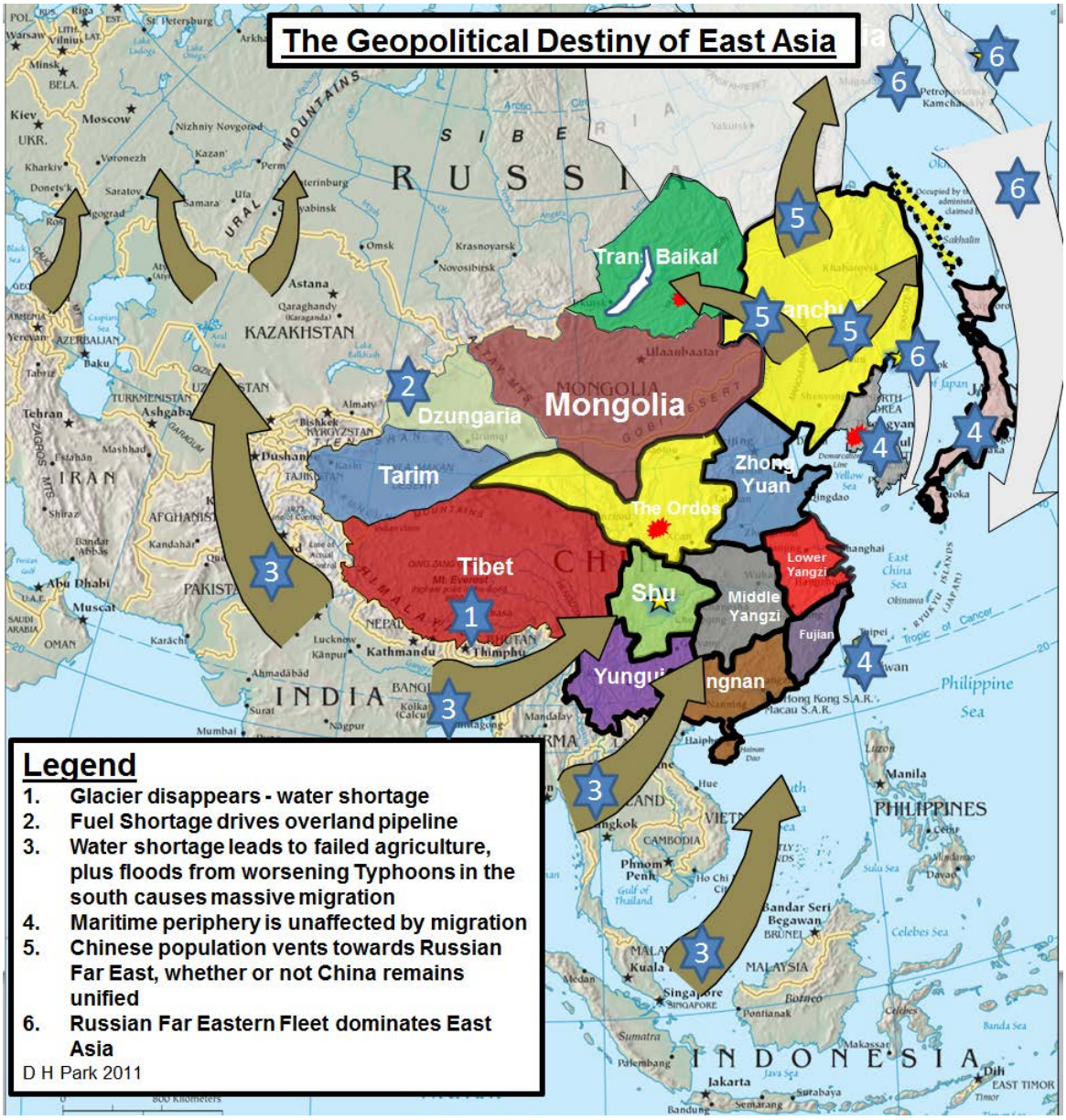


Figure 102. The Geopolitical Destiny of East Asia for the late 21st Century
Source: Created by author using Microsoft PowerPoint, built on top of map from CIA, World Factbook, https://www.cia.gov/library/publications/the-world-factbook/maps/refmap_asia.html (accessed 12 June 2011).

CHAPTER 6

CONCLUSION

> 故善用兵者，屈人之兵，而非戰也.
> 必以全爭于天下，故兵不頓，利可全，此謀攻之法也。
> Therefore, the skillful leader subdues the enemy's troops without any fighting. With his forces intact, he will dispute the mastery of the Empire, and thus, without losing a man, his triumph will be complete.
>
> — Sunzi, *The Art of War*

The history of East Asia shows a concrete pattern of people and nations being shaped by geography and climate. The mountains and rivers dividing the Chinese core sub-regions have allowed the survival of more than 50 different dialects of the Chinese language. Simultaneously, the avenues of approach connecting all of these regions have allowed a loose political unity over most of China throughout the recent times. This study identified the 17 separate geopolitical sub-regions of East Asia, each with its own distinct culture and history, 13 of them within the borders of China. Within the sub-region, Korea and Japan remain independent of China due to their geographical separation from the core areas of China. It was their geopolitical destiny to remain independent. Likewise, their geography will shield them from the worst catastrophes that strike the continent in the coming century.

These 17 sub-regions developed together within the greater context of the Sinic - Confucian civilization, some in the core, others in the periphery. These dynamic and organic sub-regions continue to evolve in relation to their environment. Throughout their evolution, both external and internal trends developed, which were identified through this study. The external trends include the trend of increasing Chinese engagement with

Russia. Other external trends include the positions of Korea, and Taiwan as geographic pivots in the sub-region. China and Japan do not like to see each other dominate these pivots, based on established patterns of conduct.

Other trends are environmental. The growing water and energy shortage within the sub-region will have dramatic impact in the future, possibly spilling over into areas outside of East Asia. India's water shortage problems will force it to expand its strategic interests in Tibet, with great consequences for the region. The global warming trend will open up a whole new world in Siberia for Russia, with unknown consequences for China. North America will have a renaissance due to the melting of the ice cap and the increased access to the oil fields. Will it lead to a cooperative regime or a competitive arena in the Arctic Ocean? The full effects of this inevitable consequence of global warming are yet to be realized.

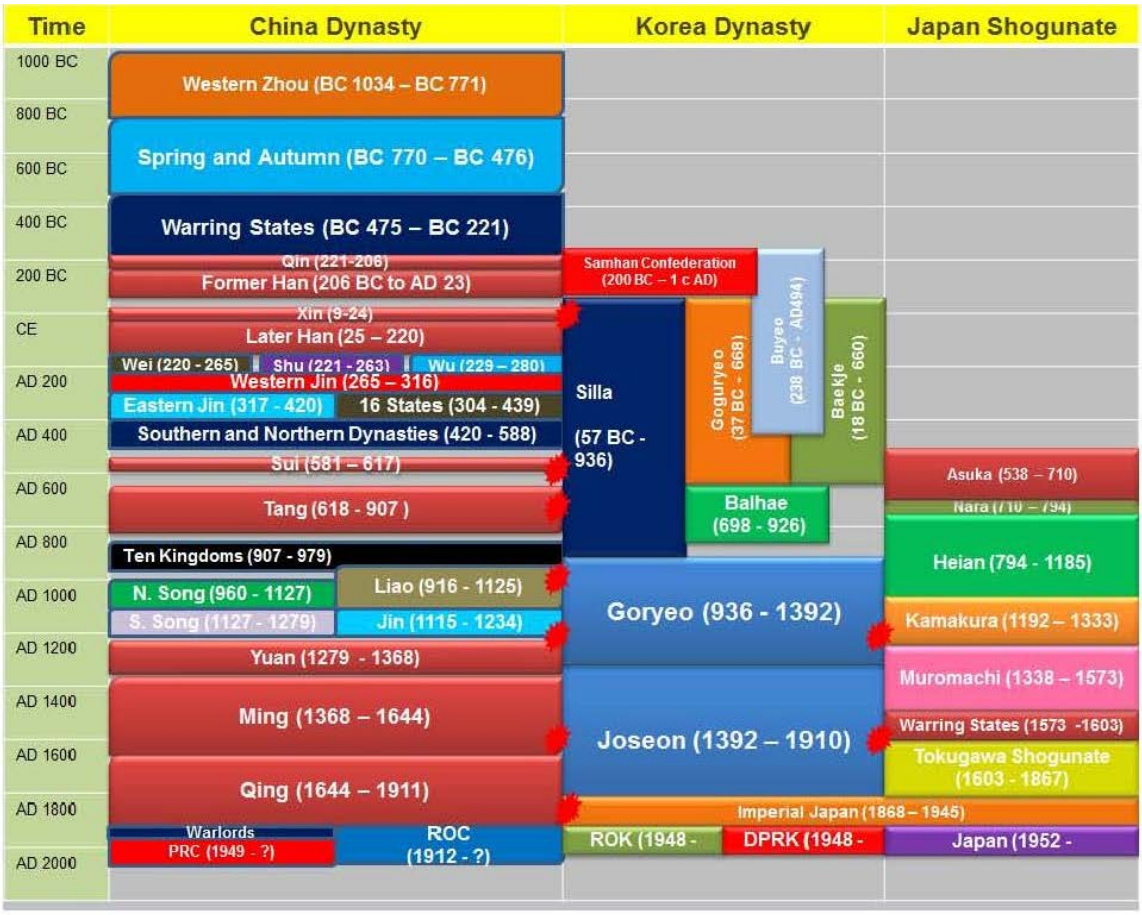
Lastly, the diverging sub-regional interests brought on by the growing gap in wealth between the sub-regions, exacerbated by existing sub-regional differences in culture, history and identity, presents the distant possibility of China fracturing, at least temporarily based on historical precedents. China is indeed a civilization, and not a nation state. Presently the total centrifugal force of sub-regionalism, and the growing pressures of resource shortage and the increasing likelihood of the braking in the economic progress potentially indicate a bleak future for China. Russian naval dominance in the North Pacific or its refusal and repatriation of Chinese immigrants in the Russian Far East are some of the small events that could trigger a region-wide systemic failure.

For the United States of America, perhaps analyzing and treating China, as a confederation of 13 disparate sub-nations will bring about a new attitude in our dealings

with them. Perhaps China should be treated more like the European Union rather than Italy or France. Recognizing that the Beijing government is working desperately to stave off multiple internal crises, each with traumatic implications can perhaps help us look at the Chinese in a different light. Of course, East Asia does not exist in a vacuum. The water crisis of China will affect South Asia and Southeast Asia in the next decade. The combined actions of Russia and China will transform Central Asia. As Haushofer stated, and the Chinese still believe, nations are organic beings, that grow and wither in relation to their physical environments. By fully understanding the impact of geography and climate behind the actions of nations, we can better align our own policy for a mutually beneficial relationship in the end. A geopolitical analysis and understanding of our own nation will help us clarify our national ends, ways, and means as well.

APPENDIX A

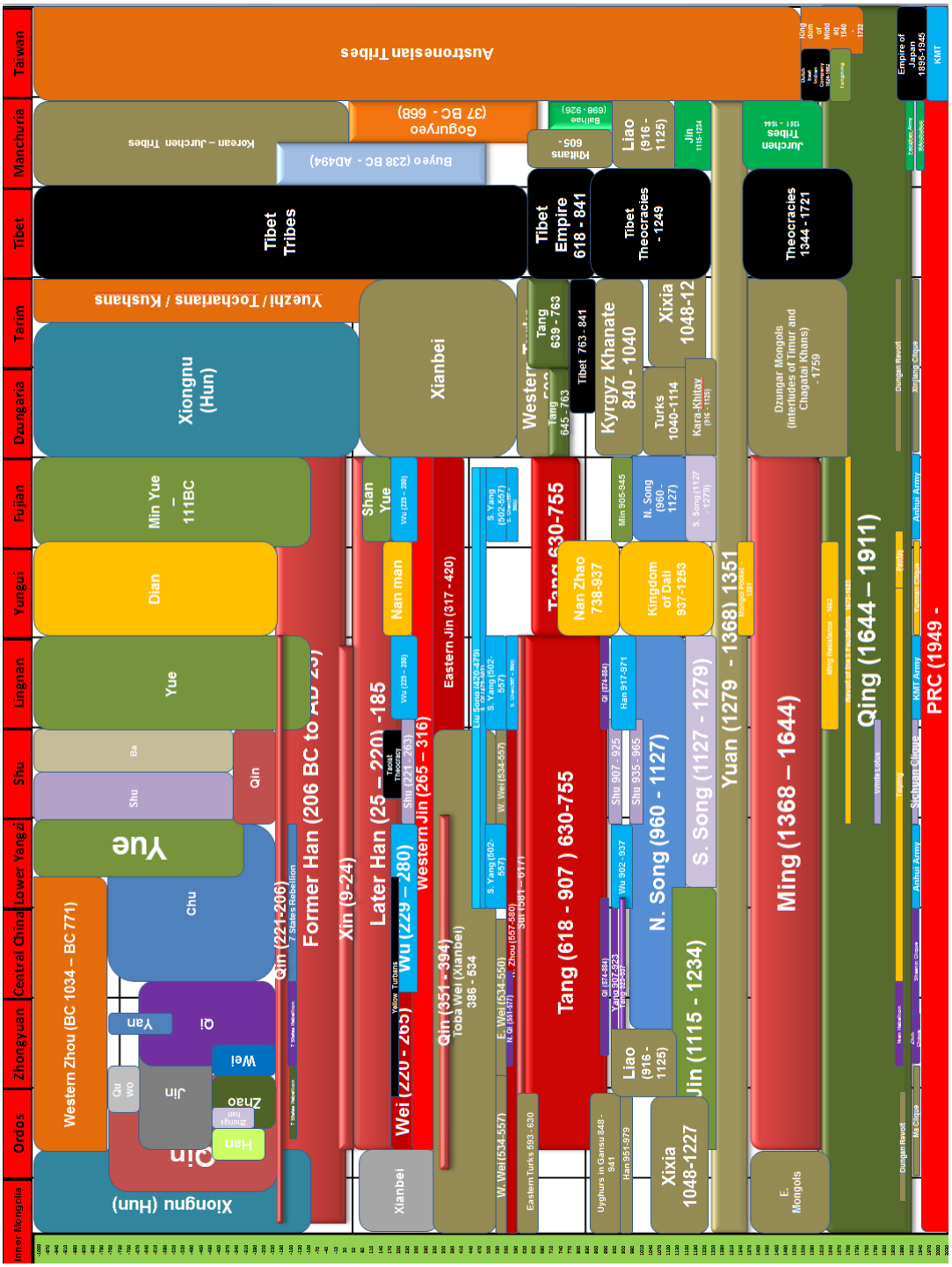
Conventional Timeline of the Orient



Source: Author's depiction of commonly accepted history of Chinese, Korean, and Japanese dynasties.

APPENDIX B

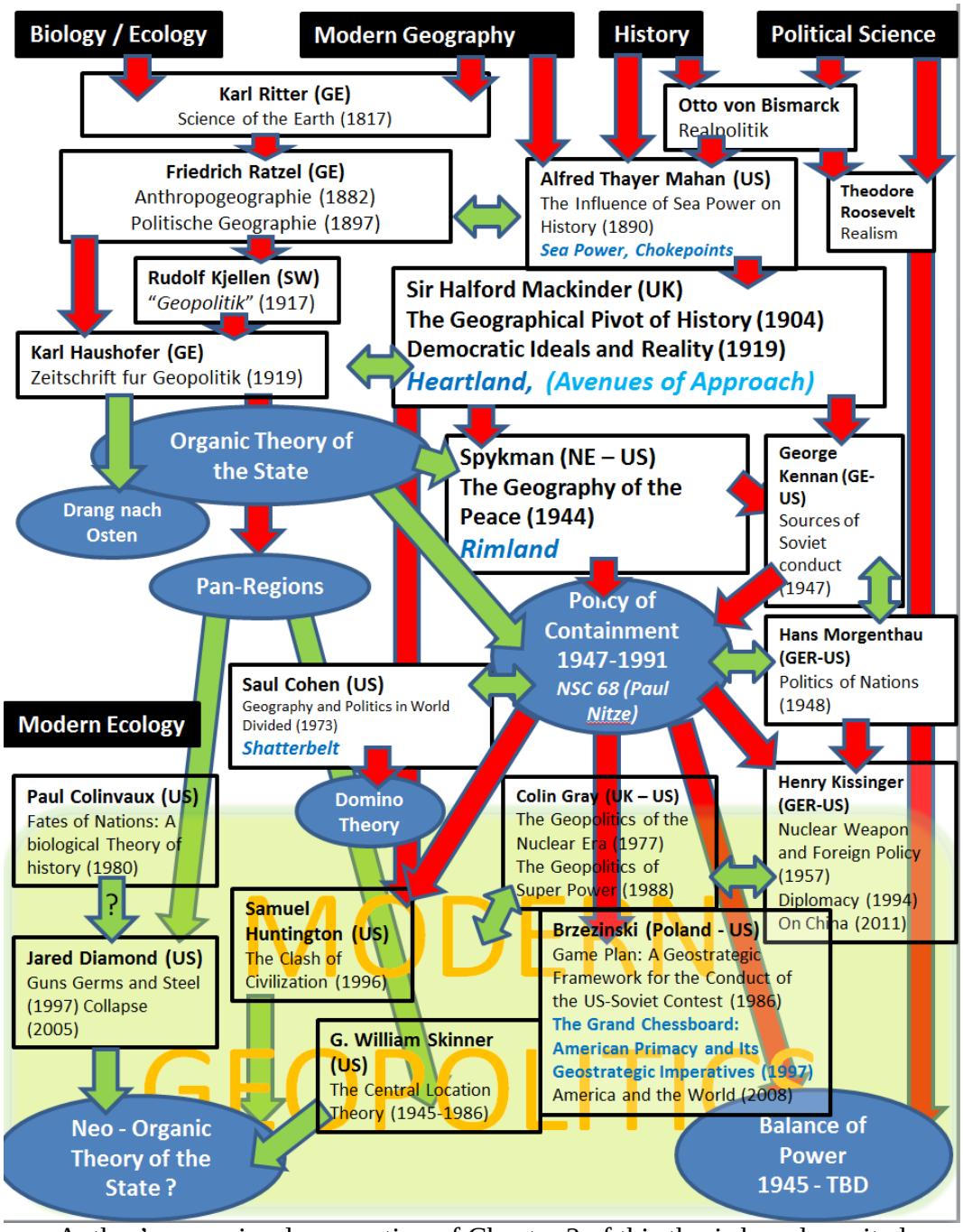
A Panorama of East Asian Dynasties per Regions of China



Source: Author's depiction of commonly accepted history of Chinese dynasties drilled down per each sub-region of East Asia.

APPENDIX C

Roots and Evolution of Geopolitics



Source: Author's own visual summation of Chapter 2 of this thesis based on cited sources throughout Chapter 2.

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